Clinical Lecture
ON
PARACENTESIS THORACIS.

Delivered at King's College Hospital, Dec. 5th, 1873,

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GENTLEMEN,—Some cases at present in the wards of the hospital in which operations have been performed for empyema have afforded us an opportunity of testing the value of the different surgical ways of treating pleuritic effusions at present in vogue. One of them, a lad of seventeen, has been for some time in No. 4 ward under the care of Dr. Garrod. Another, a more acute case, lies in the warm-air ward under Dr. Johnson.

The first case, that of M. C——, was admitted into the hospital on Sept. 6th, 1873. The patient had been quite healthy until the present illness, which commenced suddenly after bathing in the open air, five weeks before admission, with pain in the left side of the chest, cough, and shortness of breath. After a few days he recovered sufficiently to walk about. On the day of his admission he walked to the hospital from Charing-cross. He was found to have dulness on percussion over the whole of the left side of the chest, with bronchial breathing and ægophony in the subscapular region. The circumference of the left side of the chest measured more than that of the right side by half an inch, and the heart was found to beat a little below the nipple on the right side of the chest. Pulse 106. Paracentesis was performed with the pneumatic aspirator in the usual place below the armpit, and seventy ounces of thick pus drawn off. The fluid again accumulated to such an extent and so rapidly that on Sept. 22nd seventy-six ounces more were drawn off by the use of the tap trocar and india-rubber tube. This time the pus was quite fetid. For more than a month after the last operation the aperture then made continued to discharge freely. On Nov. 8th the report is that the discharge had gradually ceased to flow, and the dulness on percussion again gradually extended over the whole of the left side of the chest, and the respiratory sounds were proportionately diminished. The wound was then again opened, and thirty-six ounces of very fetid pus drawn off. On the 22nd of November I was requested to see the patient, and observed slight evidences of pointing between the eleventh and twelfth ribs about six inches from the dorsal vertebræ. I opened this freely, and evacuated about the same quantity of very fetid pus as at the last operation. The wound was then well syringed out with the carbolic lotion. The patient was at this time much emaciated and very feeble, with a pulse of 120, the temperature varying from 98° to 100°. After the operation he improved decidedly, but the anterior opening still discharged pus in considerable quantity. On the 29th, in the operating theatre, I enlarged the posterior opening sufficiently to introduce the point of the finger; then with a long stout probe I explored the anterior opening, and endeavoured to touch with it the point of the finger passed into the lower or posterior aperture. I found, however, that a tough membrane (probably an adhesion of the lung to the pleura) prevented me from doing this, and explained the fact that the anterior opening had continued to discharge pus after a free incision had been made in a more dependent position. There was evidently a septum dividing the pleural cavity into two chambers. I then cautiously pushed the point of the probe against that of the finger, and succeeded by this means in perforating the membranous partition. A free gush of putrid pus followed the withdrawal of the probe at the lower opening. A large india-rubber drainage-tube, with a quarter-inch bore, was then easily passed through the chest, and its ends tied together outside. Through this the empyemic cavities were well washed out with the carbolic lotion. From this time the patient progressed daily towards recovery. His pulse became slower, his respiration was more free, his tongue cleaner, and his appetite became better, while the discharge from the chest became void of odour and of a perfectly healthy character, diminishing in quantity day by day. By the latest report the discharge has ceased; he is getting stronger, looks well, and is laying on fat in a most surprising manner. The resonant lung percussion note can now be heard down as far as the drainage-tube itself laid along the bottom of the pleural cavity.*

Another case, that under Dr. Johnson in the warm-air ward, is of a more acute character, and is, I fear, pyæmic in its tendency and perhaps in its origin also. E. F——, a muscular man, aged forty-three, by occupation a porter, was healthy until his present attack, which began Nov. 16th, 1873, with nausea, giddiness, and pains all over, followed by cough and much pain, localised in the left side of the chest. On admission (Nov. 21st) there was much fever and dyspnœa. The left side of the chest was enlarged, respiratory expansion almost nil, with dulness on percussion from the median line in front to the middle of the scapula behind, and diminished respiratory sounds, vocal resonance and fremitus, and loud mucous râles. The expectoration was colourless, and became nearly solid with albumen on being heated with nitric acid. Respiration 40; pulse 120. The urine contained one-twentieth part of albumen, but no chlorides. The heart-sounds were heard best on the right side of the sternum.

The bulging of the chest and dyspnœa having steadily increased, I was requested by Dr. Johnson to perform paracentesis on the 1st December. With the aspirator I drew off sixty-two ounces of yellow creamy pus, which was quite sweet and free from smell. He was much relieved by the operation, although the tympanic sound on percussion showed that some air had entered the pleural cavity from one source or other. Two days afterwards an erysipelatous blush appeared on the face and one side of the nose, and this proved the commencement of a regular attack of erysipelas of the head and face. This disease was at the time prevalent in the hospital. As is not uncommonly seen, the erysipelas did not attack the site of the operation on the chest. On Dec. 4th the recurrence of great dyspnœa and bulging of the intercostal spaces urgently required further and more effective means of removing the fresh effusion. A puncture between the sixth and seventh ribs, by the use of the tap trocar and canula, permitted the escape of eighty ounces of pus, which was now extremely fetid. Next day a counter opening was made between the tenth and eleventh ribs, about six inches from the spine, by cutting upon the end of a long probe passed through the existing opening. A large-sized drainage-tube was then placed along the bottom of the pleural cavity, and its ends tied together outside. This gave great relief to the poor man, and the amount of the discharge is already lessening and its character improving, all the fetor having now disappeared.†

In another still more instructive case, that of a young gentleman aged nineteen, I made a counter opening at the bottom of the empyemic abscess with immediate and permanent relief to the patient. It was a case of long-standing on the right side of the chest, in which an opening had formed spontaneously, permitting the escape of the pus from the pleural cavity, and thus affording relief to the pressure on the respiration. The opening was placed, however, in a situation not suitable for effective drainage of the matter. It was situated high up between the second and third ribs, near their junction with the cartilages. From being long retained in the cavity, the pus became extremely putrid, and was so offensive as to be a serious nuisance to the patient and his friends, in spite of the constant injection of a solutionof the permanganate of potass. Advice had been sought in the chief centres of medical learning abroad, but no proceedings of a surgical character had been advised or attempted. My colleagues, Drs. Johnson and Playfair, who saw the case, agreed with me in recommending an operation for tapping the bottom of the pus-containing cavity. Under the influence of ether, and with the assistance of Dr. Gooding, of Blackheath, I passed a long curved sound into the aperture in a direction downwards and backwards, with the view of reaching the lowest depth of the cavity. Towards the spine, at the posterior third of the chest cavity,

* This patient has since left the hospital, with the sinuses healed and quite well and strong.

† Since the lecture was delivered this patient has finally succumbed to the protracted results of pyæmic infection, lobular pneumonia, and sporadic abscesses.

I found resistance, indicating adhesions between the lung and the ribs, and extending downwards as far as the eighth rib. And now a little difficulty presented itself. The ribs had become so closely pressed together in consequence of the falling inwards of that side of the chest that no evidence of the position of the point of the sound, when pressed against the parietes from within, could be obtained externally either by sight or touch. Under these circumstances, I measured carefully the direction and distance of the extreme end of the instrument from the opening through which it entered, and then dissected down between the ribs (which I calculated to be the seventh and eighth) where the point of the sound would most likely be found. And I found the edges of the ribs pressed so closely together that the finger could not be passed between them. By forcing the thick handle of the scalpel fairly between the ribs, and then using it as a lever by tilting it up laterally, I obtained room to pass in the point of the finger and touch the sound. I then withdrew the latter, and passed in its stead the slender wire stilette of an elastic catheter, bent in the same curve. This I was enabled to catch at the lower opening, after some difficulty, with a pair of strong dressing forceps, and drew it through the aperture. To the other end of the wire stilette was fastened a piece of string, which I drew through the chest, and after it a long and strong piece of drainage-tube tied firmly to the end. On dragging this through the newly made aperture, I found the ribs to clip it too closely to permit the escape of matter. I therefore with a strong scalpel scooped out a portion of the rib above and below, so as to afford more space for the tube. This answered perfectly; a free gush of very putrid matter followed the establishment of a free opening, and a few large syringefuls of carbolic lotion achieved the complete cleansing and sweetening of the cavity. From this time no offensive odour was perceived, and the amount of pus discharged daily gradually diminished. The lung being bound firmly down to the back of the cavity by adhesion, and probably consolidated also to a great extent, not much enlargement of its volume took place, and that but slowly. The patient's general health and comfort, however, were vastly improved. He now used as an injection the compound iodine lotion of the Pharmacopœia. This still further diminished the formation of matter, and deodorised it entirely. When I again saw him after some time, however, I found that the iodine lotion had acted on the india-rubber tube, and made it quite friable, so that I had some difficulty in withdrawing it whole through the apertures. To avoid the danger of leaving a portion of it inside the chest at the lower opening, where the ribs now gripped it somewhat tightly from the increased sinking in of the chest, I first passed through the tube a long piece of stiff, well-waxed string, which after some futile attempts I got nicely through the tube. This was then secured firmly to the ends of the tube by a noose above and below, and so the whole was secured and safely brought out, leaving the long end of the string available for pulling through the new tube. Subsequently, as the youth's parents were about to take him to Italy for the winter, I tried to substitute a less destructible material for the through drainage-tube, and inserted a metallic gilt tube, about two inches long, with a guard like a tracheotomy tube to prevent its slipping in. This was passed between the ribs at the lower opening, and the iodine lotion injected at the upper one. I was in hopes that the upper opening would now gradually close, leaving the lower patulous and available for cleansing and drainage. I was disappointed; the tube became obstructed, apparently by granulations growing around and over its point, and the discharge began again to accumulate, to putrefy, and to be discharged at the upper opening, now reduced to half its original dimensions. The general health immediately began to deteriorate, and the cough, expectoration, and hectic to return. I was finally obliged to return to a long, wide india-rubber drainage-tube, with small holes cut along its length, and with very stout and resisting walls. This I have heard has answered very well ever since, and has been renewed once a month by the patient himself in the way which I have before described, and which he has now learnt to manage with great dexterity. Under the influence of the mild Mediterranean climate the patient is gaining ground very decidedly.

In all these cases pus had been present in the pleural cavity before a communication with the atmosphere through the thoracic parietes had been established. In two the empyema had occurred on the left side, which is said to be much more common (from some reason that has not yet met with an explanation) than on the right side, as met with in the third case. In the first two cases the aspirator of M. Dieulafoy was, in the first place, the means employed for withdrawing the effusion, which had become purulent before any operation had been performed. All the cases ultimately demanded a more thorough and effective mode of treatment than the formation of a single opening could afford. At an earlier age than in these cases, probably, the removal even of purulent matter by the aspirator might not have been followed by a return of the purulent formation. In children direct adhesion of the lung and obliteration of the empyemic cavity are much more likely to occur than in adults.

In cases of serous effusion, not purulent, when the dyspnœa imperatively requires the removal of the fluid, the most beneficial results are to be expected from the use of the aspirator.

In using the aspirator, it is of the utmost importance to ascertain and ensure beforehand that the instrument is clean and its joints and taps in perfect order. The pointed tube or needle used for puncturing should always, in the first place, have a stilette pushed through it to clear away any particles of dried and encrusted matter, which may block up the passage, or afford a nidus of putrefaction or infection which may get into the wound and set up their undesirable processes. The india-rubber tube connecting it with the vacuum cylinder must also be washed in carbolised water or solution of the permanganate of potash, to ensure perfect sweetness; and finally, just before using, the needle should be dipped in carbolised oil. Those who are sceptical as to these precautions should remember the results which sometimes spring from a mere puncture with a foul instrument or splinter. Then the syringe itself should be examined to see that no air can be admitted through the joints. If this be the case, the air will show itself in frothy bubbles as the fluid rushes into the vacuum, and there will be a danger of its getting into the pleural cavity at the next stroke of the piston; this might prove to be a cause of putrefactive changes in the pleural effusion. The admission of air is most likely to happen towards the end of the operation, when the fluid is exhausted, or nearly so.

Then as to the choice of the site in performing the operation. In this particular pretty much the same rules apply to the use of Dieulafoy's instrument as to other operations for the same purpose. In all it is advisable to tap the fluid at as low a point as possible, in order to drain it off entirely; for even under the influence of the vacuum suction the canula may clear at first a space around its point, and then the soft and elastic lung expanding to the side of the thorax with its moist and sticky surface, may prevent the lower part of the fluid from rising against gravity into the tube of the syringe. The place chosen in ordinary cases of empyema is usually either under the arm between the fifth and sixth, or with some authorities the sixth and seventh ribs. But this, although just above the level of the diaphragm, at the point where the puncture is made, is much above the floor-level of the hinder part of the pleural cavity, both as the patient sits up in bed, and much more when in his most usual position, lying down or propped up by pillows. The back part of the diaphragm curves rapidly downwards from the anterior part of the seventh to the vertebral half of the eleventh rib. The serous pleural lining of the thoracic cavity is reflected from the dome of the diaphragm to the eleventh rib, forming a cul de sac, the downward limit of which is the intercostal space between the eleventh and twelfth ribs, or the upper border of the twelfth rib at its centre. The pleura covers the inner surface of the posterior two-thirds of the tenth and eleventh ribs (sometimes, but not always, reaching the twelfth rib), and the whole of the inner surface of the osseous portion and a part of the cartilage of the seventh, eighth, and ninth. The angle at which the diaphragm arises from these ribs and their cartilages, however, is so acute, that but little space is left for the thin lower border of the lung, forming a mere groove for it to work in. This groove is deeper and narrower at the back part, and although when the lung is compressed by effusion this groove is somewhat widened and enlarged, as seen by the bulging of the inter-

costal spaces at this part, yet it is a matter for accurate manipulation to pass an instrument into the pleural cavity without pushing its point into the sloping surface of the diaphragm beyond. The operator may even, if too bold, transfix the diaphragm and puncture the liver lying close below and moulded upon its concave dome. This is more likely to happen if the liver is enlarged and the puncture happens to be made at the very instant of complete expiration. Sometimes the serous pleural lining is reflected from the diaphragm to the ribs a little higher than usual, and does not come quite as far down as the costal origins of the muscle. Its areolar connexions here, too, are loose, and give way readily to a blunt-pointed instrument, which, if the pleura be also hardened and thickened by disease, may even push this membrane before it, and tear it from its parietal attachments without penetrating the pleural cavity at all; or, as commonly occurs, there may be adhesion of the diaphragmatic to the costal pleura at the lower and back part of the thoracic cavity. As a matter of precaution therefore it is better to choose an intercostal space somewhat higher than the lowest level of the pleural cavity for the first opening into it, although the lowest level may be theoretically the most effective for drawing off the fluid. Again, allowance must be made for any displacements of the heart and liver. If the diagnosis of fluid in the pleura be clear and correct these organs are pushed, the former over to the opposite side, and the latter towards the abdomen somewhat, and thus operative procedures on the affected side are rendered more easy. But it must not be forgotten that adhesions of the lung either to the diaphragmatic or costal pleura may altogether interfere with this change. Thus, the usually accredited position between the middle of the fifth and sixth or sixth and seventh is the safest place at which to make the first puncture. It is better to puncture the intercostal muscles close to the smooth, convex border of the rib below. Here you are less likely to meet with irregular projections or ridges of the rib. You are also less likely to meet with or injure the intercostal vessels and nerves in this situation. Usually the intercostal artery bifurcates about the middle of the rib, from which point forwards a small branch (scarcely of sufficient importance to need especial care) runs along the upper border of the rib below the space. Posterior to the lateral median line of the thorax the intercostal arteries in the spaces under consideration are of considerable size, and lie above their respective nerves, somewhat protected externally by the outer projecting lip of the intercostal groove, just external to the angle of the rib above. More anteriorly they lie nearer the middle of the intercostal space, and are endangered by an incision or puncture placed too near the upper rib. It must also be borne in mind, in operating in this region, that these vessels may be irregular in their position, or their cutaneous or other branches larger than normal. In the tenth and eleventh intercostal spaces the vessels are usually of somewhat smaller size than the rest, but in operating at a point near the vertebral column the lesser distance of their aortic orgin from the seat of operation must be remembered.

But considering that adhesions, more or less extensive, may in any given case exist between the visceral and parietal layers of pleura circumscribing the effusion of matter, and limiting it as in an ordinary abscess, it is better, I think, to be guided in the choice of the site for operation to a great extent by the percussion sounds and stethoscopic indications. If the dulness of the percussion note, and the absence of respiratory sounds be more decided in one place than another, it will be better to choose that part for operating. It is well to be guided also in the choice of a situation by the presence and amount of intercostal bulging, and the absence of the expiratory wave, on principles similar to those which determine the opening of any other abscess as its "pointing" may indicate. And I would hesitate about puncturing even at the most accredited place, unless this sign was in some degree present. Adhesions are indicated mostly by a certain amount of contraction or depression, more visible at the commencement of inspiration at the intercostal space where it occurs.

In all cases an incision, long enough to admit the tip of the finger, should be made through the skin and fibres of the serratus magnus or latissimus dorsi muscles before the pointed tube or trocar is introduced, otherwise the instrument, especially if slender, may even fail to pierce the skin, or may slip over a rib or be drawn aside by the spasmodic contraction of a muscle, and, slanting off obliquely, may fail to enter the thorax, or may puncture it at a part not exactly contemplated. I make it a point to feel clearly, with the finger, the position of the upper border of the under rib, and in stout subjects also to divide some fibres of the external intercostal muscle before puncturing. In all cases where the puncture is not intended to remain open, the skin should be drawn upwards before using the scalpel, so as to form a valvular covering to the puncture when the instrument is withdrawn. Even where the puncture is a very small one, this increases the safeguards against the admission of air, so important in cases where the effusion is serous only.

In estimating the propriety of tapping the pleura in a case of hydrothorax, where the probabilities are against the presence of pus in the cavity, it should be kept in mind that a spontaneous absorption of the effused fluid as rapidly as it has occurred is a common result, especially in the young. I should say that in such cases tapping ought only to be performed when the symptoms of dyspnœa and evidences of insufficient aeration of the blood are urgent. This is of course more likely to be the case when the effusion occurs on both sides of the chest simultaneously, but this is not common. A real difficulty lies in recognising the character of the effusion before tapping it, and it frequently becomes, in fact, a decision of a question of probabilities, which can only be made certain by seeing some of the fluid. In such cases M. Dieulafoy's instrument is a very valuable means of withdrawing and inspecting the fluid without the chance of air entering the chest and setting up a suppurative or putrefactive change. If the case be one of simple hydrothorax, it is by no means necessary to draw off all the fluid to the last drop. Relief of tension and pressure upon the lung are usually sufficient to turn the scale in favour of the absorbents, and to enable them to complete the removal of the fluid which may remain. Over anxiety to remove all the fluid increases the chances of air passing into the vacant cavity.

In cases of empyema, on the other hand, it is important to drain off the pus completely. In children and young persons, otherwise healthy, one complete removal of the pus may be followed by immediate adhesion of the lung to the pleura, and no subsequent deposit may take place. But in adults my own experience tells me that for the most part the successful treatment of empyema becomes ultimately one of free openings, and the establishment of effective drainage and thorough washing out and cleansing with antiseptic fluids. The most mild of these is Condy's fluid or a solution of the permanganate of potass. The most generally useful and effective is carbolic acid, or some of its preparations in solution; and the most powerful, both as an antiseptic and desiccant of the discharge, as well as by its absorption and general constitutional effect in scrofulous or tubercular cases, is the solution of iodine or compound iodine lotion of the Pharmacopœia. Under its use the discharge is immediately deodorised, and gradually diminished. The lung, if not hopelessly bound down, enlarges to something of its natural volume, the parietes of the chest sink inwards to meet it the rest of the way, and adhesions form around the drainage-tube, converting its track into a sinus which gradually fills up with granulations, and ultimately heals entirely. In employing this remedy the surgeon must keep in mind its tendency to act on the drainage-tube, and change the latter before it gets so friable as to endanger its breakage during extraction, and, if its condition be doubtful at the time of abstraction, to employ precautions similar to those I have described in the former part of this lecture.

UNIVERSITY OF LONDON.—The following examiners for 1874–1875 were appointed at a meeting of the Senate held last week:—Practice of Medicine: Dr. Bristowe and Dr. Wilson Fox. Surgery: Mr. John Marshall and Mr. Savory. Anatomy: Mr. G. W. Callender and Mr. George V. Ellis. Physiology, Comparative Anatomy, and Zoology: Dr. M. Foster and Dr. Rutherford. Obstetric Medicine: Dr. Barnes and Dr. Graily Hewitt. Materia Medica and Pharmaceutical Chemistry: Dr. Thomas L. Brunton and Dr. Thomas R. Fraser. Forensic Medicine: Dr. Arthur Gamgee and Dr. Maudsley.

ABSTRACT OF

Lectures ON ELECTRO-THERAPEUTICS.

Delivered at Charing-cross Hospital,

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LECTURE III.

THE PHYSIOLOGICAL RELATIONS OF ELECTRICITY.

ALTHOUGH we must admit that at present the basis of electro-therapeutics is empirical rather than physiological, we should not on that account be justified in ignoring the facts which have been established as to the physiological action of electricity. If a thoroughly scientific system of electro-therapeutics is ever to be established, it can only be by disseminating those crumbs of real knowledge which we owe to physiological investigators.

The two forms of current used in medicine—the galvanic current and the induced current—differ essentially in their nature. With regard to the GALVANIC CURRENT, we must bear in mind—

1. *That it is continuously evolved, and that it always flows in one definite direction.*—This is an important point to remember, because the physiological action of the two poles is markedly different; and it has also been asserted that the direction of the current in the body—towards the nerve-centre or towards the periphery—has an important effect upon the physiological or therapeutical result.

2. *The galvanic current has well-marked chemical and thermal effects.*—This action is most marked at the negative pole. A very moderate galvanic current will cause warmth and redness of the skin; if the current be unduly increased we get inflammation, blistering, and even sloughing at the negative pole as a result.

3. *The galvanic current has electrolytic effects.*—When a current is passed through a conducting compound liquid, decomposition frequently results. Oxygen is evolved or acids are formed at the positive pole, while hydrogen or alkalies are formed at the negative pole. If we bear in mind that the human body is a mass of cells which contain and are bathed in a saline fluid, it is impossible to shut our eyes to the fact that when a constant current is passed for some time in the same direction through the body, some of the phenomena observed may possibly be due to electrolytic changes going on in the cells of the part acted upon. We have no direct evidence that this is the case, but we must bear in mind the possibility. Faraday called the positive pole the *anode*, and the negative pole the *cathode*, and these terms have lately become fashionable among electro-therapeutists.

With regard to the INDUCED CURRENT we must remember—

1. *That it is momentary in duration.*

2. *That its direction is constantly changing*, many times in a second possibly, so that in using it we need have no regard to the different poles.

3. *The chemical, thermal, and electrolytic effects are almost nil.* They are, in fact, so slight that we may disregard them altogether.

4. *The intensity and tension of the current are very great*, so that it overcomes without difficulty any resistance which the human body may oppose to it.

5. *It causes the contraction of healthy muscle far more effectually than the galvanic current.*—The stimulating effect which causes a muscle to contract is produced only at the moment of making or breaking the circuit of an electric current, and is not observed during the continuance of the current. It is owing to the constant interruptions of the induced current, as well as to its greater tension and intensity, that its great power in causing muscular contractions is due.

Wherever chemical action is taking place there is electrical disturbance. It has been shown that the animal body is no exception to this rule, and that the chemical process going on in its cells has the effect of generating electrical currents. Although therefore the quack assertion that "Electricity is Life" is certainly not true, it is probably correct to say that we cannot have life without the manifestation of electricity, provided that means sufficiently delicate be employed for its detection. Du Bois Reymond showed that no two parts of the human body, excepting exactly symmetrical spots, were in the same condition electrically—a fact probably due to the different intensities of chemical action going on in the cells.

Definite electrical currents—currents having always a definite direction—have been observed in nervous and muscular tissue. If a length of nerve be taken it is found that the current flows from the longitudinal to the transverse section, and the same rule holds good with muscle.

The inference has been by some rather too hastily drawn that nerve force and electrical force are identical. That the two forces are related in so far that the one most readily excites the other there can be no doubt. Professor Marshall, however, gives the following differences between nerve force and electricity:—1. Nerve force is not conductible along a metallic wire. 2. The rapidity of transmission differs; that of electricity being estimated at 462,000,000 feet per second, and that of nerve force at only 200 feet per second. 3. Cold diminishes the conducting power of nerves for nerve force, but increases the conducting power of electrical conductors. 4. The crushing or compression of a nerve destroys its conductivity. The conducting power of the various tissues of the body seems to be proportional, though not entirely so, to the amount of water they contain. The best conductor appears to be muscle. Cartilage, tendon, and nerves come next in order. Bone offers nineteen times the resistance of muscle; and the worst conductor of all is the epidermis, the conducting power of which varies in proportion to the amount of moisture with which it is imbued.

When a galvanic current is passed through a nerve certain changes are produced in the physiological properties of the nerve. The change produced is spoken of as the condition of *electrotonus*. The part of the nerve in the neighbourhood of the positive pole (the anode) has its irritability and conductivity diminished, and this portion of the nerve is said to be in a condition of *anelectrotonus*. The part of the nerve in the neighbourhood of the negative pole (the cathode) has its irritability and conductivity increased, and this part is said to be in a condition of *cathelectrotonus*.

Now the galvanic current has the power of so stimulating the nerves that contraction of the muscle supplied by the nerve follows. Muscular contraction only occurs at the moment of making or breaking the galvanic current—at the commencement or ending of the electrotonic state. Muscular contraction, however, does not occur under all conditions with every making or breaking of the current, but is found to depend partly upon the intensity of the current used, and partly upon the direction in which it is passing, whether centripetal or centrifugal. It is found that—1. With weak currents (whether centripetal or centrifugal) contraction only follows the closing of the circuit. 2. With moderate currents (whether centripetal or centrifugal) contraction occurs both on closing and opening the circuit. 3. With very strong currents (stronger than we dare use with human beings) it is found that with the centripetal current we get contraction only on opening the circuit, and with the centrifugal current only on closing.

These contractions, apparently so capricious, occur whenever the part of the nerve next to the muscle passes from what one might call a minus condition to a plus condition, and the following rule is almost right—accurate enough, that is, to be allowed as a help to the memory: *muscular contraction occurs on the appearance of cathelectrotonus, or on the disappearance of anelectrotonus in the nerve supplying it.* This law, which is known as Pflüger's law of contraction, receives a certain amount of confirmation from the *polar method of investigation*—a method which we owe to Brenner of St. Petersburg. This polar method may be studied by placing one rheophore upon an indifferent part of the body, say the sternum or the hand, while the other rheophore is placed upon the nerve to be tested. Everyone may study this law upon his own body by holding one rheophore in the hand, and by fixing the other upon the ulnar nerve of the opposite side of the body just above the elbow. By means of the commutator the rheophore over the ulnar nerve may be converted into either pole, cathode, or anode at will, and we shall be in

a position to study the influence of both poles on closing and opening the circuit. One must begin with a very weak current, which must be gradually increased by means of the regulator.

With very weak currents we find that contraction of the muscles supplied by the ulnar nerve occurs only when the stimulating rheophore is the cathode, and only on closing the circuit. To put it shortly, we may say that contraction only occurs on making *cathodal closure*; and we may imitate the Germans, and symbolise cathodal closure by the letters C. C. If the intensity of the current be slightly increased, we find that contraction not only occurs with cathodal closure (C. C.), but also with *anodal opening* (A. O.); and on making a slight further increase of intensity, contraction occurs with *anodal closure* also (A. C.) If the current be still further increased (to a degree to which few would submit), it is said that contraction not only occurs as above, but also on making *cathodal opening* (C. O.) The contractions which occur have been formularised thus—the numbers representing the different strengths of current:

1. C. C., contraction.
2. { A. O., contraction. { A. C., contraction.
3. C. O., contraction.

The contractions with the moderate current (2) have been bracketed together because the time of their appearance is uncertain, the anodal closure contraction preceding, in some persons, the anodal opening contraction.

Now the effect of the two poles, as stated above, admits of no doubt, and everyone may verify it upon himself or another. It is certainly interesting, and in some sort a confirmation of Pflüger's law, that contraction does not occur (with any reasonable strength of current) on making cathodal opening, or, in other words, on the disappearance of cathelectrotonus, but that contraction is very readily obtained by making anodal opening and causing the disappearance of anelectrotonus.

Some electro-therapeutists insist strongly that the two poles are of very different value therapeutically. This is a point which requires more study; and it is not so much on account of any therapeutic fruit which it has borne, but rather on account of its great scientific interest, that I have demonstrated to you the polar method of investigation. There is no more important property of the galvanic current than what may be called its refreshing effects. Heidenhain succeeded in restoring the excitability of the muscles of an exhausted frog by passing a strong galvanic current through them; and certain observations of my own, therapeutic as well as physiological, lead me to hope that the refreshing effect of the current will be found among its most useful properties. The current seems not only to prevent fatigue of the muscles and to remove the sensation of fatigue when it occurs, but experiments by M. Cyon, as well as investigations of my own, seem to prove that the force and duration of muscular contraction can be both increased by subjecting the nerve supplying the muscles to the influence of a mild galvanic current. Some of my experiments on this subject will be found recorded in the *Practitioner* for Jan. 1873; and I may say that the facts there stated have since been repeatedly confirmed. It was found that when a man was made to hold out a weight at arm's length, the feeling of fatigue which quickly supervened was at once removed on passing a mild galvanic current through the nerves of the arm, and that, whereas he could only support the weight for six minutes when no electricity was used, he was enabled to support it for more than double the time provided his muscles were refreshed now and again with the galvanic current. Further, by testing the strength of the muscular contractions by means of a dynamometer, it was found that the strength exerted was considerably greater when the galvanic current was being used.

The brain and spinal cord are both accessible to galvanic currents. If a current be passed through the brain, by placing the rheophores on either side of the skull, a feeling of giddiness quickly supervenes.

The sympathetic nerve is perfectly accessible to galvanism; and many important therapeutic results are said to flow from the galvanisation of it. On practising the manœuvre known as the galvanisation of the cervical sympathetic—one rheophore placed over the superior cervical ganglion, and the other on the nuchæ,—I have often noticed the pupils dilate at the moment of closing the circuit. Although it is impossible to single out the sympathetic trunk and to influence it without at the same time influencing many other important nervous structures, it should, on the other hand, be borne in mind that we cannot possibly pass a current through any part of the body without at the same time influencing the sympathetic twigs which ramify on the bloodvessels.

If the neck be galvanised in the manner indicated, we often get peculiar spasmodic movements of the arm of the same side. If the current be interrupted and the patient be made to speak at the same time, we may produce a most perfect artificial stammering; for we not only get the characteristic spasmodic utterance, but that sympathetic movement of the arm as well which is so often observed in stammerers.

The nerves of special sense all give an electrical reaction. If the galvanic current is applied in the neighbourhood of the eye, flashes of light are seen by the patient.

The acoustic nerve reacts to galvanism, and if the polar method be practised the following results will often (but not always) be obtained. On making cathodal closure, a noise (rumbling, singing, whistling) is heard in the ears, which gradually diminishes during the continuance of the current. No noise is heard on making cathodal opening or anodal closure, but (if the current be strong enough) a short sharp sound is heard at the moment of anodal opening.

If the Schneiderian membrane be galvanised, a peculiar smell is said to be produced.

The gustatory nerve is easily influenced, and when either pole touches the cheek or the tongue, what is known as the galvanic taste is produced (acid with the anode, and metallic with the cathode).

With the nerves of common sensation galvanism produces first a "shock" and then a feeling of pricking and burning. The chief action of the induced current is that of an excitor of muscular contractions. It is a powerful stimulant to nerves, and when applied to the skin causes redness, a pricking, smarting pain, and erection of the papillæ. The only difference in the action of the two coils is that the secondary coil, from its greater number of turns, gives a current of higher tension than that of the primary coil, and hence is of greater use in influencing deep-lying muscles. The induced current has no specific action on the nerves of special sense.

ON THE WASTE OF LIFE BY PREVENTABLE DISEASE.*

BY R. BRUDENELL CARTER, F.R.C.S.,
OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL.

MR. PRESIDENT,—In the ancient and wonderful social system of Japan, as in that of so many other oriental countries, it has long been usual to soften or remove some of the asperities of life by the judicious administration of presents. Tradition tells us that the Japanese were once a nation of poor fishermen; and, in memory of the time to which that tradition refers, it is still a custom among them, when any man brings an offering of his best to his friend or to his patron, that he should add to this offering, however rich or costly—that he should place, so to speak, in the front of it, a portion of dried fish as a token of humility. While manners vary, the human mind remains everywhere essentially the same; and this custom of the Japanese, grotesque though it may at first sight seem to us, is by no means without its counterpart among ourselves. How frequently do we see, when one of us is required to discharge some public function before his peers, that he prefaces his performance with a metaphorical piece of fish, always dry and oftentimes unsavoury, in the shape of an exposition of his own unworthiness of the honour to which he has been called, of his own inadequacy to the task which he is immediately about to accomplish. On this occasion, Sir, I do not intend to follow the practice to which I have referred, and which I have ventured to trace to its possible origin, in order that I may with more confidence denounce it as a semi-barbarous one.

* Being the Annual Oration delivered before the Medical Society of London.

The stereotyped excuses of the accustomed exordium have often, to my ears, a certain ring of insincerity; and I hold that a speaker who is really conscious of his deficiencies should leave them to declare themselves in due season, and should refrain from increasing the inevitable miseries of his hearers by inflicting upon them the unnecessary pangs of anticipation. With such powers as I have, therefore, I apply myself at once to the work which it has been the pleasure of the Fellows to commit to me, and which it has thus become my duty to perform to the best of my ability. Neither the statutes nor the customs of the Society afford to your orator the aid of suggestion, or confine him within the limits of usage; and hence the selection of a topic upon which to address you must often be a matter for grave consideration and anxiety. On the present occasion it has been to me a source of much perplexity. In the first instance, perhaps not unnaturally, I turned my thoughts towards the branch of surgery in which I practise, and shrunk from it lest I should weary those to whom it is not a matter of immediate concern. I turned next to the wider field of medicine in general, and shrunk from it, in the knowledge that I should be like an apprentice speaking to masters of the craft. In this dilemma I was reminded of the accession to political power of a party leader who has recently declared himself plainly with respect to the want of improved legislation for the protection of the public health, and it occurred to me that in such a conjuncture it might not be unseemly if I were to invite your attention to certain sanitary questions which may soon afford occupation to the Legislature. On these questions the members of our profession should, I think, by virtue of superior knowledge, claim to be the guides of public opinion; and, in order to assert this claim, and to endeavour to show that it is well founded, I purpose to address you to-night upon "The Waste of Life by Preventable Disease."

In order to do this profitably, it seems necessary, in the first place, to surround the phrase "preventable disease" by some kind of definition. In a certain wide sense, we may say that every disease is preventable; for, if we were all to live in strict accordance with the dictates of reason and physiology, there can be little doubt that we should, in most cases, die only of natural decay. But the diseases which I have now in my mind, and to which I think the word "preventable" may most properly apply, are those that depend, if not for their existence, at least for much of their prevalence and of their severity, upon the acts and defaults of the community, rather than upon those of the individual. We know, only too well, that every large aggregation of human beings is attended by a liability to outbreaks of epidemics of various kinds; and that, as the aggregation increases in its density and in the number of its units, this liability increases also, not merely in a direct, but in a quadratic or cubic ratio. Now to these epidemics, which have, if not their causes, certainly the conditions of their most dire activity, in the accumulated waste and excretions of many persons, the quality of "preventableness," if I may coin a word for my necessity, must attach in a peculiar manner. It is manifest, I think, that a community might be so ordered that its members should neither do nor suffer harm by virtue of their close proximity to each other; but it is also manifest that the stringency of the necessary precautions would have to be calculated (and this is a point apt to be overlooked) not upon the mere ratio of density of population, but upon the higher ratio of the increasing proneness to disease. In England, at this time, there are many persons who spare neither expense nor trouble in their endeavours to secure the health of themselves and of their families. There are many who take little heed of such matters, and there are some who sacrifice health to foolish or vicious indulgences. But all alike are exposed to innumerable causes of sickness from which they are powerless to shield themselves, and concerning which the careful have no advantage over the careless, except such as may be due to a greater personal power of resisting morbid influences. Typhoid fever, like death itself, comes with the same step to the huts of paupers and to the palaces of kings. The ordinary channels of contagion, so far as we are acquainted with them, are such that all classes and ranks are about equally liable to the invasions of disease. The laundress, who receives linen from an infected household, diffuses the infection not only among the homes of her customers, but also among the cottages of her workpeople, or among those that fringe the water-course into which her drainage is led. The school-keeper who, on the outbreak of scarlet fever in his establishment, scatters his pupils far and wide over the land, spreads contagion not only in the households to which they immediately proceed, but also among the families of domestics and other dependants. So much is this the case, so much is it a matter of constant experience that infectious maladies may be "caught," as the phrase is, we know not how, that personal carefulness of health is distinctly discouraged by the familiar knowledge that it may so easily be rendered nugatory. But we know also, on the other hand, that many of the conditions which foster contagious diseases, and many of the channels through which they spread, are fully under the control of the community; and that really the only practical question with regard to the exercise of that control is whether the balance of advantage is distinctly on one side or the other. People in general have no conception, have not even a conjecture, of the annual amount of pain and loss which, in various ways, epidemics inflict upon the community. They see that the restraint of epidemics, to be effectual, must be accomplished at the cost of some restraint of personal freedom; and, while they are not sure that the desired end would, after all, be attained, neither are they sure of the extent or character of the disadvantages which restraints on freedom might entail. Now the diseases of which I wish to speak to-night as being preventable, are those only against the propagation of which the community is powerful, whilst the individual is almost absolutely powerless; and these, for all practical purposes, may be taken to correspond with the class called "zymotic" by the Registrar-General. The mortality from this zymotic class may form the basis of an estimate of the ravages of preventable disease amongst us, and may serve to show the magnitude of the evils which, for want of proper sanitary legislation and administration, we, as a people, are condemned to endure. There are two members of the class, however—namely, rheumatism and diarrhœa,—which it is doubtful whether I ought to include; since they are, both of them, in great measure attributable to the want either of personal or of parental care. But the mortality directly produced by rheumatism, and registered under that head, is altogether insignificant; and the inclusion of diarrhœa may, I think, fairly be balanced by the exclusion of phthisis, which produces a far larger number of deaths, and which as Drs. Buchanan and Bowditch have shown, is clearly capable of being much diminished by those public sanitary measures which serve to dry the soil beneath and around habitations. I think therefore that I shall not be far wrong in assuming that the known facts about the zymotic class will be sufficient for the purpose that I have at present in view—that is to say, that they will furnish us with grounds for rational conjecture concerning the amount of disease which might be prevented, almost, if not altogether, by the intelligent and well-directed action of the State. Concerning the possibility of such prevention it is not necessary that I should argue before this assembly; neither shall I enter upon the question, which in the present state of knowledge is insoluble, whether the diseases of the zymotic class are always produced by infection, or whether they sometimes originate anew under the operation of unknown influences. It is part of the common stock of medical knowledge that they at least exist subject to conditions; and that, if the conditions were unfulfilled, the diseases themselves must disappear.

A statement expressed only in figures, when it deals with numbers larger than those of which we have habitual practical experience, gives rise to but faint conceptions in the mind. But, even when thus stated, the mortality from the zymotic diseases is startling. Taken collectively, during five successive quinquennial periods, from 1847 to 1871, these diseases, in the period from 1847 to 1851, destroyed the lives of 512,261 persons, out of a total mortality of 2,028,367, or occasioned one death in 3·96. From 1852 to 1856 they destroyed 472,690, out of 2,082,346, or one in 4·4. From 1857 to 1861 they destroyed 375,085, out of 2,168,087, or one in 5·78. From 1862 to 1866 they destroyed 560,015 out of 2,397,532, or one in 4·28; and from 1867 to 1871 they destroyed 562,487 out of 2,476,731, or one in 4·4. During the whole 25 years they caused the loss, in round numbers, of two millions and a half of lives, out of a total mortality of eleven millions, or one death in 4·48, the exact figures being

2,482,538, and 11,153,063. If we add another half million of deaths for another five years, we arrive at the result that three millions of people, a number approximately equal to the population of London, are killed by zymotic diseases in the course of each generation.

The mortality thus produced, however, is not the whole of the evil which I have to describe, and it may be doubted whether it is even the worst part of it. Let us first consider the question of prevalence. On this part of the question I have referred to the Reports of the London Fever Hospital, and I have examined the proportion of deaths to admissions in that institution during the nine years from 1863 to 1871. There were in all 27,332 cases, chiefly made up by typhus, enteric, and scarlet fevers, but including 1192 described as febricula, in which there were no deaths, and 4117 of "other diseases," such as small-pox, measles, a few cases of pneumonia, and some others; the total, therefore, not unfairly representing the zymotic class as a whole. Among the 27,332 patients, there were 4490 deaths, or almost precisely 1 in 6; while, in the case of typhoid fever taken alone, the proportion of mortality was very nearly the same. There were 3692 cases of typhoid, and 611 deaths, or 1 in 5·94. It may be assumed that the careful attendance and good nursing of the hospital would diminish mortality; and, on the other hand, that the cases admitted would be severe. If we set one of these conditions against the other, we shall perhaps be right in regarding the mortality of 1 in 6 as a fair representation of what usually occurs; so that, in order to obtain a notion of the prevalence of zymotic diseases, we must multiply by six the deaths laid to their account by the Registrar-General. This would give about 600,000 cases a year, or 18,000,000 cases in a generation. My own impression, however, is that this estimate is far too low, because, when we include mild cases of the exanthemata occurring among the better classes, I do not think the total mortality from zymotic disease is nearly so much as 1 in 6. Probably 1 in 12 would be a good deal nearer the truth. It has come to be regarded as customary that every person should pass through three or four of these diseases, and parents so little expect their children to escape measles, and whooping-cough, and scarlet fever, that it is made a matter of congratulation when these occur in a family at some not specially inconvenient season. The estimate of prevalence, therefore, certainly does not err on the side of excess, and I suspect that it errs very much on the side of deficiency. Still, I do not hesitate to adopt it, because I think it entitles me to assume that each of the six hundred thousand cases which certainly occur annually may be regarded as possessing a character of at least moderate severity, and as having a corresponding period of duration.

According to the proportions existing at the last Census, in 600,000 persons there would be 292,280 males and 307,720 females. Of the males, 154,909 would be 20 years old and upwards, and 137,371 would be under 20 years old. The females of 20 or upwards would be 172,324, those under that age 135,693; so that, including both sexes, there would be 327,223 adults, and 272,767 children or young persons. Dr. Buchanan has been good enough to furnish me with a conjectural estimate of the duration of illness in the chief diseases of the zymotic class, reckoning it, of course, from the first appearance of the symptoms to the time when the ordinary duties of life may be resumed. I cannot venture to oppose my own small experience to his; but his estimate appears to me to be low. He sets the duration of typhus and of relapsing fever at five weeks, that of enteric fever at six weeks, that of febricula at three weeks, and that of scarlet fever at four weeks; or an average of four weeks and a half for each case. Let us apply this to the numbers already stated, and first to the 154,909 adult males. We cannot place the lost earnings or productiveness of each patient at a smaller sum than one pound per week, nor the cost of his maintenance, medical attendance, and nursing, at less than another pound, making the total loss and cost for each male adult nine pounds per illness, or £1,349,181 in all. In the case of adult women we may perhaps estimate the total loss and cost at six pounds per illness, or £924,454; and in the case of children and young persons at one pound per illness, or £172,767. We have here a total sum of £2,596,402 to represent what would be the immediate and direct annual pecuniary cost and loss by zymotic disease to the community if it fell upon the wage-earning classes alone. The greater cost of its incidence upon the better classes cannot be estimated from any data known to me. The illness of the Prince of Wales disturbed the whole current of English society, and the value of such a life as that of the Prince Consort, or, coming to more recent times and to our own sphere, the value of such lives as those of the Rev. Charles Butter and of Dr. Peter Allen transcends my humble powers of expression. The money cost, whatever it may be, falls partly, of course, upon the relatives of the sick, partly upon the members of clubs and benefit societies, partly, and very largely, upon the rates for the relief of the poor. The one hundred thousand premature interments must cost at least £2 each, and they raise our money total to £2,796,402 yearly. Besides the mortality and the cost of sickness, we must also take cognisance of the considerable percentage of imperfect recoveries. It is my lot, at two hospitals, to see a large number of children suffering from eye disease, and especially at the Royal South London Ophthalmic Hospital, around which there is a poor and densely crowded population. My inquiries as to the origin of the malady are constantly followed by the reply—"Ever since he had the measles." In the Irish Census return for 1871 it is stated that out of 6347 blind persons living in that country, 526 had lost their sight from small-pox, 31 from measles, 34 from scarlatina, and 99 from fever, or 690 in all; so that more than one-tenth of the existing blindness was due to zymotic disease. Enteric fever, scarlet fever, small-pox, and measles all entail upon some of their victims an indefinite period of broken health or of impaired usefulness; of which Bright's disease after scarlet fever, or a consumptive tendency after enteric fever, or blindness produced by small-pox, may be cited as extreme examples. In cases of a less marked kind they often leave a protracted feebleness that may be communicated to offspring. The miscarriage of pregnant women is common in typhus, still more common in relapsing fever, and occurs occasionally in all zymotic maladies, so that it seems reasonable to suppose that the fœtus in utero may habitually be more or less injured in such cases. Here, of course, we have no very firm ground under our feet, and no data upon which to found any numerical conclusions. But the experience of every one in this room will bear me out when I affirm that the evils thus referred to are terribly real in their character, and terribly large in their extent.

(To be continued.)

CASE OF EPILEPSY PRESENTING FEATURES OF UNUSUAL INTEREST;

WITH COMMENTS.

BY JOHN W. OGLE, M.D.,
PHYSICIAN TO ST. GEORGE'S HOSPITAL.

(Concluded from p. 617.)

As respects the pathogeny of the previously narrated case of epilepsy, it is of course, in most cases of this affection, difficult to point out with certainty what part or parts of the nervous system are primarily at fault. The case would appear to be one of centric origin; but as the absence of pain in the head, of vertigo, of sickness, of intellectual defect of any kind (except, indeed, a slight hebetude, which might well be the *result* of the attacks), or of any paralytic condition of the muscles of the face or limbs or articulating organs, or of impaired sensibility of skin, would not lead one to expect the existence of any affection of the brain, I would ask whether there might not be reason to suppose that some part of the upper region of the spinal cord was at fault? Would not this view be supported by the nature of the convulsive attacks, their affecting mainly the left upper limb, the unequal condition of the pupils, the fact of the convulsions being excited by irritation of parts of the surface animated by nerves supplied by that part of the nervous centres, and by the analogy between the general features of the case and the condition which, in rabbits, has been found sufficient to permit of the artificial production of epileptic attacks?

Granting that the upper part of the medullary axis was

at fault,* and so modified as to be in a condition in which its reflex or excito-motory faculty was intensified,† the conduction of external or peripheral impressions might easily set up a state of the cord under which the bloodvessels of the brain, by virtue of the sympathetic derived thence to them, might undergo that contraction which is, according to some pathologists,‡ essential to true epilepsy, especially to the loss of consciousness which obtains in its typical forms. The difference in the size of the pupils of the eyes which came on would well correspond with interference with the sympathetic in the spinal cord; and possibly the slight want of power in the muscles on the left side of the face, which caused the "want of expression" which was noticed, might have been the result of interference with the sympathetic which is known to join the gangliform enlargement of the facial nerve.

As respects the antecedents of the case, it is to be borne in mind that, although there was a history of *syphilis*, and also of a *blow* on the *head*, which appeared to have aggravated the attacks, yet the patient had attacks previous to the occurrence of these things, even in early life.

Regarding the interesting point of *treatment* in the above case, I would allude to the fact that whilst the use of the bromide of potassium had been attended by benefit, the belladonna, carried so as to produce its physiological effects, had appeared to be still more serviceable, diminishing as well the frequency of the attacks as their intensity. In such a case I should have been disposed to have tried the effects of a ligature, so applied as to cut off or intercept the conduction of the aura or peripheral impression; but of course, considering the wide-spread character of the peripheral sensation—(i. e., the entire left side of the chest, and left arm and shoulders), such a proceeding was impracticable.

Postscript.

A.—In case that any reader should not have seen any descriptions of these experiments, scattered as they are in different places, I would refer him to the "Comptes Rendus de la Société de Biologie," tome ii., 1850, and to the "Archives Gén. de Médecine" for February, 1857, where the author gives an exposition of his experiments and results, showing that in mammalia certain lesions of the spinal cord are followed, at the end of some weeks, by an epileptic convulsive affection, especially section of a lateral half of the cord, and, simultaneously, of the posterior columns, the posterior grey nerves, and of a part of the lateral columns. The convulsive attacks sometimes take place without external irritation, lasting from thirty to sixty seconds, but they are produced especially by irritation (by pinching, burning, or galvanism) of the skin of certain parts of the face and neck, a region which he designates the epileptogenic zone, though irritation of the three nerves which send filaments to this part of the skin does not produce convulsions. Since the above dates, Dr. Brown-Séquard has shown that section or removal of the sciatic nerve, also of the roots of the last dorsal and first lumbar nerves—i. e., probably of the sympathetic contained therein—will produce epilepsy. See also a late *résumé* of facts showing the artificial production of epilepsy by Brown-Séquard, in the "Archives Gén. de Med." for 1869. He demonstrates that injury of several parts of the spinal cord in guinea-pigs (not in dogs or rabbits, nor in cats, save in one instance) produced an epileptic condition, or disposition which was capable of being transmitted to the descendants of the animals operated on. Animals rendered artificially epileptic by this injury of the spinal cord never recover, and die in the course of some months; but guinea-pigs rendered epileptic by division of the sciatic nerve do recover when the divided nerve reunites; recovery being preceded by increased sensation in the epileptic zone, and by falling off of the hair of the same part. Brown-Séquard has lately found that these artificially produced convulsions can be arrested by irritating the throat by means of carbonic-acid injections. See "Arch. de Phys.," iv., 1872. The experiments of Westphal, above alluded to, are related in the "Berlin. Klin. Wochensch.," 1871. He found in guinea-pigs that when artificial epilepsy was produced, an epileptogenic zone near the angle of the jaw was formed. The epileptic condition gradually disappeared in his animals.

B.—Following Bernard, who found that the temperature of the brain-substance was increased on the side corresponding to section of the sympathetic of the neck, Schiff, Donders, Vulpian, Tholozan, Brown-Séquard, and others, have shown that bloodvessels may be made to contract reflectively by distant irritation of sympathetic and spinal nerves; and what is more *apropos* to the consideration of epilepsy in connexion with contraction of cerebral vessels are the five interesting experiments of Nothnagel, as described with all minuteness in the fortieth volume of Virchow's Archiv (see page 203), who found that, after exposing the pia mater of the rabbit, irritation of the leg by means of galvanism would cause contraction of its vessels. Callenfels (see Henle and Pfeuffer's "Zeitschrift neue Folge," Bd. vii.) had found that irritation of the sympathetic may produce constriction of the arteries of the pia mater of the cerebrum.

Kussmaul and Tenner explained the attacks of convulsion in epilepsy as being caused by anæmia resulting from spasmodic contraction of the small vessels of the brain. In this, however, Van der Kolk—a high authority on epilepsy—only partially concurs, as he considers that the above observers have "exhibited partiality in wholly excluding the casual influence of active arterial congestion" as a cause of convulsions. He admits, however, that in the very beginning of an attack "more or less vascular spasm may exist which may even produce a sudden momentary retarding or obstruction in the circulation through the capillaries rapidly passing into dilatation." He would not consider the spasm to be the cause of the attack, "but rather the result of the commencing discharge of the nerve-ganglia, which are certainly most clearly connected with the vaso-motor nerves." Van der Kolk supposes that in epilepsy the excited action of the ganglionic cells in the medulla oblongata extends its influence to the vaso-motor nerves of the brain; and this altered and more or less disturbed state of the circulation is "the cause of the loss of consciousness during an attack of epilepsy."

The subject of convulsions or spasmodic action, arising as a result of diminished blood-supply to the brain, is illustrated by Panum, who found, among other consequences, that tetanic spasm terminating fatally in two hours, without discernible alteration of the spinal cord, was produced by artificial embolism of the arteries of the medulla oblongata and brain.* It is also exemplified by what sometimes happens from pressure, in disease, upon the vessels of the neck. Of this I could not quote a better illustration than the case described by Sir T. Watson in his Lectures on Thoracic Aneurism, of a gentleman with aneurismal disease of the aorta interfering with the stream of blood through the arteries which spring from its arch. In his case the brachial and subclavian arteries were pulseless, as also the carotids; and Sir T. Watson observes that when he placed his finger "for a few seconds only in front of the left sterno-mastoid muscle," his head drooped, his cheeks became white, and he "was on the brink of fainting. But he recovered immediately. Then," he says, "I made similar pressure for a moment on the right side of the neck, and the same phenomena were instantly repeated, with the addition of convulsive jerking movements of the head and arms. He rallied again directly upon my removing my finger, and was scarcely aware of what had happened. For a second or two he had been unconscious."

I would here also allude to some observations by the late Dr. J. Thompson Dickson on the Nature of Epilepsy (pub-

* It seems undoubted that epilepsy may be the result of injury or disease of the spinal cord or of the brain; and Dr. Brown-Séquard, in his Lectures on the Physiology of the Nervous System, 1860, quoted cases from several sources showing that a disease of the spinal cord, or its membranes, as well as an affection of any centripetal nerve in the human body, may be the primitive origin of a real epilepsy; and many practical works on Medicine and Surgery contain allusions to epilepsy as resulting from injury and disease of brain and spinal cord, or their membranes. One of the most striking that I remember is the case of epilepsy following injury to the cranium recorded by Mr. Solly in his Surgical Experiences, p. 171-3. I may also refer to cases of epilepsy from cranial and brain injury cured by the trepan.

† That part of the spinal cord through which the sympathetic nerve, which eventually is distributed to the vessels of the face, iris, and brain, passes on its course from the base of the brain. I may here mention that, according to the experiments of Schiff, Callenfels, Donders, Nothnagel, &c., to be hereafter alluded to, the sympathetic nerve in the neck is by no means the only or constant path or track for the vaso-motor nerves of the pia mater and brain; and that probably they find their way through cerebral nerves, and join the carotid plexus in the carotid canal, pass also direct to the pia mater from the medulla oblongata and pons, &c. According to experiments of Schiff and others, the medulla oblongata appears to be the centre of the bloodvessel-contracting nerves.

‡ See note B. in postscript.

* See quotation from Virchow's Archiv, 1862, in Year-Book for 1863, p. 138.

lished in THE LANCET for 1872), in which he attempts to show that the proximate cause of the attack in epilepsy, resulting in loss of consciousness, is cerebral anæmia arising from contraction of the arterial vessels and capillaries of the surface grey matter of the cerebral lobes, a consequence of irritation either direct or secondary to exhaustion. Dr. Moxon, in reference to the same subject, and writing to Dr. J. Dickson, acknowledged that there is arterial anæmia as the result of the cause of epilepsy. I may say that we are well acquainted with a variety of epilepsy in which syncope is a chief symptom, one which was termed "lypothymia" by Sauvages.

I would refer the reader to a paper by Dr. E. L. Fox "On certain Epileptic Phenomena" in the second volume of the St. George's Hospital Reports, in which he concludes that arterial spasm is the proximate cause of most of the epileptic phenomena, including clonic convulsion; and that spasm of the arteries of the cerebral lobes is the cause of much of the impairment of mind met with in epilepsy.

Referring to the production of convulsions by the presence of insects in the frontal sinuses, as I have done, I would mention that Mr. Lawrence, in a note to his edition of Blumenbach (see p. 336), alludes to the fact of insects gaining admission into the frontal sinuses of men (particularly the Scolopendra electrica), and causing distressing symptoms. In the *London Journal of Medicine* for 1849, p. 1072, mention is made of a case of maggots in the ear causing convulsions.

ON THE

SUBCUTANEOUS INJECTION OF MERCURY.

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IT was not without reason that Sir William Jenner, in his Address in Medicine at the meeting of the British Medical Association in 1869, spoke of the introduction of subcutaneous injection into medicine as one of the most important advances of recent times. As with every other valuable invention so with this, it was not the result of a sudden brilliant inspiration, but the crowning point of much careful research and patient experiment. Here, as usual, coarser methods led the way, and, step by step, these were modified and improved; the object of almost all the earlier investigators being the relief of neuralgia by the direct application of narcotics to the painful part. First of all, in 1824, it was suggested by Lembert and Lesieur to raise a small blister over the painful spot, and sprinkle powdered morphia on the denuded surface.* Then, in 1836, Lafargue,† by means of a lancet puncture, inoculated morphia in its solid form, or made into a paste with water. A little later, morphia in suspension was introduced by means of a grooved needle, or on the point of a lancet, or, as was practised by Langenbeck, in a sort of miniature scoop or spoon, partially covered over. This was again improved upon by Rynd of Dublin, who devised an instrument consisting of a needle and canula, the needle being withdrawn by a spring after making the puncture, and a concentrated solution of morphia poured into a little opening in the side of the canula and allowed to run down into the tissues. To Dr. Alexander Wood,‡ however, belongs the credit of raising the new method into popularity by the adaptation of the subcutaneous syringe. He tells us that he had tried first one and then another plan of conveying morphia under the skin, and had found them all unsatisfactory, until, at the end of the year 1853, he had occasion to use one of the little syringes made by Ferguson for injecting solution of the perchloride of iron into a nævus. It struck him that this was the instrument wanted, and he determined to try it in the next case of neuralgia that presented itself. The opportunity soon came, and all the world knows the excellence of the result.

Still it was considered absolutely necessary, in order to produce the desired effect, that the remedy should be injected at the seat of pain until Charles Hunter§ published a series of careful experiments, and proved this important fact—that the influence of remedies injected subcutaneously is not local, but is exercised through the general system, and that, consequently, the relief will be the same however far away from the affected nerve the narcotic be introduced. After much controversy and inquiry the conclusions of Hunter were admitted to be sound; and thus the field of experimentation was greatly widened. The subcutaneous method, until now reserved for the administration of anodynes, was evidently capable of more varied use. Wherever, in fact, precise and rapid action of a remedy was required, this was presently seen to be the best way of securing it. And now we are familiar enough with the injection of quinine in intermittent fevers, ergotin in hæmorrhage, Calabar bean in tetanus, certain antidotes in cases of poisoning, and a host of other medicines which are desired to act quickly and powerfully through the system at large.

It is with the introduction of mercury into the system by this method that I am now going to deal more particularly. Widely different opinions have been expressed as to the value and even the practicability of giving mercury in this way. It will not be amiss, therefore, to commence with a sketch of the history of this mode of treatment.

The earliest experiment appears to have been made by Charles Hunter himself,† who administered to a girl of twenty-one, two injections weekly of a solution of the bichloride of mercury, containing a grain to the drachm, and continued them weekly until twenty-five grains had been given, without producing salivation. The example thus set was followed in the year 1860 by Professor Hebra,‡ and by Neumann,§ at Hebra's suggestion, in some cases of syphilitic skin disease. They obtained rapid amelioration of symptoms; but, not considering the method preferable to others, they soon abandoned it.

In 1864 Dr. Scarenzio, of Pavia, published a memoir‖ entitled "First attempts at the Treatment of Constitutional Syphilis by Subcutaneous Injections." He selected for use calomel prepared in the form of vapour suspended, in his first experiments, in glycerine, and afterwards, in order to expedite absorption, in water alone. He injected twenty centigrammes (three grains) each time in a gramme and a half (twenty-three drops) of the vehicle. For the absorption of the insoluble salt he relied upon the alkaline chlorides of the blood changing it into the soluble bichloride; "for it is certain," he says, "that no physician would risk the injection of a solution of sublimate into the subcutaneous cellular tissue, in the fear of provoking a slough without any chance of absorption." Details are given of eight cases, and in one only was there profuse salivation without benefit. "In all the others there was," he assures us, "a rapid and lasting cure, without accident either at the time or subsequently." True, every injection that he made was followed by abscess; but he does not rank this as an accident, "for these abscesses were always limited," he says, "to the subcutaneous cellular tissue, and were very quickly cured."

Further trials of this mode of treatment were made by Ricordi, Ambrosoli, and others, at the Hospital for Venereal Diseases at Milan, and in other parts of Italy,¶ where, indeed, it found great favour, and appears to be still in vogue.** At a medical congress held at Brussels in 1868 the gold medal was awarded to Drs. Scarenzio and Ricordi†† for a

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* Exposé Sommaire d'une Médication Nouvelle par la Voie de la Peau privée de son Epiderme, &c. Par MM. Ant. Lembert et A. J. Lesieur. Archives Gén. de Méd. (Mai), tom. v., p. 158. Paris, 1824.

† Eulenburg (A.), Die hypodermatische injection der Arzneimittel, p. 7. Berlin, 1855.

‡ Edin. Med. and Surg. Journ., vol. lxxxii., 1855, p. 283 *et seq.* Brit. Med. Journ., Aug. 28th, 1858; and a letter in Med. Times and Gaz., June 17th, 1865.

* Medical Times and Gazette, Oct. 16th and 30th, 1858; March 5th, 26th, April 16th and 23rd, Sept. 10th, and Oct. 8th, 1859; and June 3rd, 1865. Brit. Med. Jour., Jan. 8th, 1859. THE LANCET, Oct. 17th and Dec. 12th, 1863. St. George's Hospital Reports, vol. i., p. 305 *et seq.*; Lond., 1866.

† Zeissl. Lehrbuch der constitutionellen Syphilis, p. 351; Erlangen, 1864.

‡ Ibid.

§ Neumann (I.): Skin Diseases. Translated from the 2nd German edit. by A. Pullar, p. 268; Lond., 1871.

‖ Annali Universali di Medicina; Milan, 1861. See Archives Générales de Médecine, 6e sér., t. 7, pp. 86—90 (Revue Critique, par Lasègue); Paris, 1866. Also Bulletin Gén. de Thérapeutique, t. 76, 7e livr. (Art. par Bricheteau); Paris, 1869. And Bouchardat, Annuaire de Thérapeutique, 1866, pp. 221-2.

¶ Giornale della Mal. Vener., Nos. 1, 2, 3, and 4, referred to by Bricheteau, loc. cit.

** See Notices in THE LANCET, vol. ii., 1872, p. 750; and vol. i., 1873, p. 99.

†† Journal de Médecine, Sept. 1870; quoted in Practitioner, vol. v., 1870, p. 378.

memoir in which the calomel plan is recommended very strongly, especially in the syphilis of infants and pregnant women; and on the 4th of January, 1869, Dr. Oscar Max-Van Mons narrated to the Royal Society of Medical and Natural Sciences of Brussels* several cases in which he also had used calomel suspended in a few drops of thin mucilage. An abscess of the size of an egg invariably followed. "One injection," he says, "often sufficed for a cure; if not, a second was made. ..... one or two days after the opening of the first abscess; ..... a third is rarely necessary." This brilliant and astounding result, however, was not allowed to go long unchallenged. Dr. Aimé Martin forthwith published a letter in the *Gazette des Hôpitaux*,† pointing out that it was unreasonable to pronounce cured on the 27th of February cases which had only commenced treatment in November of the previous year. He also condemns the use of calomel on account of its insolubility and the consequent "torture of those abscesses which seem so trifling to M. Van Mons."

On reading an account of Scarenzio's experiments, Mr. Berkeley Hill was led to publish some which he himself had made in 1864–65.‡ He chose for his purpose a solution of corrosive sublimate, on account of its being more readily estimated, and generally injected one-fifth or one-sixth of a grain, in six minims of water, twice a day into the arm or shoulder. His observations extended over a series of eleven cases of constitutional syphilis; in none of which had he abscess, and in only one cellular inflammation, with some little pustules on the skin. The pain of injection was trifling. In nine of the cases the gums were affected after injecting less than one grain and a half of the salt, and in four of these after only four-fifths of a grain.

But by far the most extensive series of experiments yet attempted was that by Dr. George Lewin, of the Charité Hospital, Berlin, who published some observations based on 700 cases—firstly, in the fourteenth volume of the Annals of the hospital, and afterwards as a separate work.§ He used a simple solution of the bichloride in water (about four grains to the ounce), adding a little glycerine and morphia in the case of patients with a sensitive skin. Fifteen drops (one-eighth of a grain) were usually injected daily, sometimes in the side of the chest, and sometimes below the shoulder-blade or on the outer side of the arm. It was exceedingly seldom (only in 2 or 3 per cent. of the cases) that he had to contend with local accidents of any importance—as, for instance, abscesses or sloughing of the overlying skin, and even then he attributes them to the clumsiness of the operator. Fifteen or sixteen injections, involving a total quantity of about two grains of sublimate, were generally sufficient to cause the symptoms to disappear; and he affirms that the relapses were considerably fewer than after ordinary mercurial treatment. His book concludes with a short statement of the advantages of the method:—1. Rapidity of cure (proportional to the quantity injected daily). 2. Comparative infrequency and lessened gravity of a relapse. 3. Precision as to dose. 4. Facility of administration. 5. Freedom from irritation of the alimentary canal.

After the appearance of Lewin's paper, several inaugural dissertations were published in Germany on this subject,‖ each of them containing a few original observations, and generally maintaining the superiority of the new treatment. Dr. Grünfeld also related fifty cases treated in the wards of Prof. Sigmund of Vienna.¶ In 1405 injections there were only two abscesses. The duration of treatment was much more prolonged than that indicated by Lewin, being, on an average, 93·7 days—a difference which the author ascribes to the greater severity of the cases. He made some analyses of the urine, and detected the presence of mercury after the injection of twelve milligrammes (about one-sixth of a grain). "No method," he says, "is comparable to this in rapidity and in certainty, or lessens so materially the chances of relapse." He thinks, however, that, owing to the severe pain occasioned by the injection and the liability to abscess, it is chiefly indicated where internal treatment and the use of friction are inapplicable.

Dr. Stöhr, commenting on eighty cases he had observed in the clinical wards at Würzburg,* pronounces the subcutaneous treatment to be "the most energetic and direct" mode of mercurial treatment which has yet been proposed. But he, also, characterises the pain of the operation as very severe; and he describes, moreover, a number of very unpleasant constitutional effects—as, for instance, diarrhœa, vomiting, dyspnœa, shivering, feverishness, and even syncope.

The method advocated by Lewin has been adopted by many other observers. I may mention particularly Dr. T. J. Walker, of Peterborough,† who published in the year 1869 an account of ten cases; Dr. R. W. Taylor, of New York,‡ who conducted observations on about fifty patients for a period of eighteen months; Dr. M'Call Anderson, of Glasgow;§ Dr. Oppert, of London,‖ who used a solution of double strength, and related to the Clinical Society of London eight cases so treated; Prof. Sigmund, of Vienna,¶ who writes in 1872 that he has applied it in more than 200 cases, and has met with abscess only five times; Dr. Hammer, of the United States of America;** Dr. Hansen, of Revel;†† and Dr. Hagens,‡‡ a German army surgeon, who records forty-four cases, twenty-two in the military hospital, and an equal number in private practice. All these observers speak most favourably of the therapeutic results of the treatment. Drs. Taylor and Oppert hesitate to recommend its general adoption on account of the local mischief; while, on the other hand, Hagens says that abscess never occurs except from faulty solution or superficial injection.

At the suggestion of Lewin, M. Liégeois introduced the treatment into France in 1867. He succeeded in avoiding all inflammatory action by using much smaller doses ($\frac{1}{3}$ gr.), and combining with these a small quantity of morphia. On the 2nd of June, 1869, he read a communication before the Surgical Society of Paris,§§ based on researches extending over a period of eighteen months, and including more than 400 observations. He injected fifteen drops in each arm every morning, and found the pain easily tolerated and followed by no inflammatory action. Of 196 cases treated for secondary symptoms, 127 were cured, and the remaining 69 bore no trace of the secondary manifestations for which they were admitted. Six months after cure M. Liégeois was able to say that only four of the cases marked cured had suffered any relapse. He noticed that where the symptoms yielded quickly relapses were more frequent. The average length of time under treatment was from twenty-five to thirty-four days.

(To be continued.)

* Gazette des Hôpitaux, Feb. 20th and 27th, 1869.
† Ibid., March 6th, 1869.
‡ THE LANCET, May 5th, 1866.
§ Die Behandlung der Syphilis mit subcutaner Sublimat-Injection: Klinische bearbeitet von Dr. G. Lewin, 263 seiten; 8vo; Berlin, 1869. See Summary in Biennial Retrospect of Medicine and Surgery (New Sydenham Society), p. 44; Lond., 1869: and review in Berliner Klin. Wochenschrift, March 29th, 1870.
‖ Boese (C.), Diss. Inaug.; Marburg, 1868. Merscheim (A.), Diss. Inaug.; Bonn, 1868. Klemm (R.), Diss. Inaug.; Leipz., 1869. See Schmidt's Jahrb., Bd. 142, Hft. 1, 1869, pp. 39–42 (Analysis by Dr. Güntz).
¶ Wien. Med. Presse, 1868 and 1869; see Analysis by Dr. Güntz, loc. cit.
* Deutsches Arch. f. Klin. Med., v. 3 u. 4, 1868, p. 407; see Analysis by Dr. Güntz, loc. cit.
† British Med. Journal, July 10th and Dec. 4th, 1869.
‡ New York Med. Gaz., May, 1871. See notices in Brit. and For. Med.-Chir. Rev., xlviii., 1871, p. 523; and Dublin Quart. Journ., lii., 1871, p. 308.
§ Glasgow Med. Jour., vol. ii., N.S., 1870, pp. 265-6.
‖ Trans. of the Clinical Soc. of Lond, vol. iii., 1870, p. 42 *et seq.*
¶ Wien. Med. Wochenschrift, Sept. 9th, 1871. See Summary in Bienn. Retrosp., 1871-2, p. 308.
** New York Med. Record, vol. iii., 1869, p. 582; and iv., 1870, p. 11 (from Humboldt's Med. Archives).
†† Dorpat. Med. Zeitschrift, ii., 3, p. 193; and iii., p. 11. See Analysis in Schmidt's Jahrb., Bd. clv., Hft. ii., 1872, p. 168.
‡‡ Deutsche Klinik, Bd. xxii., 1870, p. 17—24.
§§ Gazette des Hôpitaux, July 31st, and Aug. 3rd, 7th, 10th, and 24th, 1869.

THE EARLSWOOD ASYLUM FOR IDIOTS. — The annual court and election of this institution was held last week at the London Tavern, Mr. James Abbis, the treasurer, presiding. The report read by Mr. Nicholas, the secretary, stated that the number of inmates was 576—385 males and 191 females, of whom 100 are life inmates. Forty-one more would be added at this election, making a total of 617. The health of the inmates had been remarkably good, and many of them were usefully employed. The committee had to acknowledge a sixth donation of £1000 from "W.C.K.," and legacies of £1000 from Miss Brackenbury, Mr. Royon, and Mr. Reeve. The total income for the year had been £34,273 19*s.* 7*d.*, but this sum had not met the expenditure, and the committee had been obliged to obtain an advance of £2900 from their bankers to meet current expenses.

REMARKABLE CASE OF HEART DISEASE:

SEPTUM OVALE OPEN, AND INFERIOR VENA CAVA OPENING INTO LEFT AURICLE; NO CYANOSIS.

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THE subject of this very singular case was a man with a well-built frame, good muscular development, and 5 ft. 4 in. in height. At the age of nineteen he enlisted into the 60th Rifles, having been for seven years previously in the Royal Navy, and was in possession of the Baltic medal for services on board H.M. frigate *Nile* during the Crimean war. He embarked with his battalion for Canada in June, 1861; and, without being habitually intemperate, he kept up his habits of sea life, taking stimulants pretty freely. His father died young, cause of death unknown; but he said his family were healthy, and his mother, who was with him constantly for some time before his death, was certainly a very healthy-looking old woman. He enjoyed good health in Canada, being always considered a strong, muscular little man, ready for anything, and was for three summers employed as one of a boat's crew on the river St. Lawrence and Lake Ontario, in the service of the General Officer commanding. He had a mild attack of syphilis in 1868, not treated by mercury, and not followed by secondaries; and returned to England with his battalion in the summer of 1869, in good health, going through field days at Aldershot and the autumn manœuvres for three seasons without inconvenience. Was tapped for hydrocele in 1872, and in December of that year was in hospital for gout in the right foot, being at times dyspeptic, but never had acute rheumatism.

He came to hospital on Oct. 16th, 1873, complaining of extreme weakness amounting at times to syncope. He looked very ill, was deadly pale, respiration rapid and laboured, heart's action extremely quick and extended, with regurgitation into the veins at the base of the neck; legs œdematous. Auscultation revealed pulmonic congestion, especially of the left side, and extensive valvular disease of the heart, the exact nature of which could not be at once determined owing to the very rapid action—144 a minute, with weak and irregular rhythm. Having for some months been employed as clerk in the battalion orderly room, he had not been called upon to undergo much exertion and fatigue, but said that for the last few months he had been subject occasionally to dyspnœa, and that since arrival at Portland, in June, the dyspnœa had increased with increasing debility, making it difficult for him to ascend the hill to the citadel, a height of nearly 500 ft. from the sea level. He was ordered a purgative, counter-irritation to back of the left lung, diaphoretic and digitalis. The symptoms were relieved; and on the 18th, two days later, a systolic bruit was heard just below the nipple, carried downwards, and very extensive cardiac hypertrophy was diagnosed, dulness extending towards the xiphoid cartilage and epigastrium, with giddiness and a confused, uncomfortable feeling in the head. Urine acid, depositing lithates, and slightly albuminous.

Oct. 24th.—Pulse irregular, three rapid beats and then a pause; respiration 24, easy; no cough nor expectoration, but some gouty pain in the knee.

25th.—Had a sudden attack of extreme dyspnœa, passing into a state resembling the clonic stage of an epileptic fit, but ending in coldness and exhaustion; and was considered due to pulmonary embolism. Ordered brandy and digitalis, under which the symptoms subsided to some extent; and on the 26th the pulse intermitted less frequently.

28th.—Sounds of the heart distinct and without bruit; impulse forcible, and widely extended upwards and to the right.

A fortnight later the pulse was down to 100; the sounds of the heart were clear and without bruit, but intermitting, three rapid beats and then a pause in length of two beats; the pulse at the wrist not corresponding to the heart in number of beats.

At the end of a month the rhythm was still irregular, pulse 132, respiration 32, the dropsy increasing. Digitalis continued. By Dec. 6th the frequency of the pulse fell to 74, but the intermission continued about every third beat. The digitalis was omitted, and the pulse again rose from 100 to 144.

On Dec. 15th the sounds of the heart were rather muffled and running into each other, but there was no bruit. On the 20th the sounds were quite regular, but there was a roughness with the diastole, and the pulse was 140.

From this date the general symptoms advanced rapidly, especially the dropsy, necessitating paracentesis abdominis on Jan. 4th, 1874, when two gallons of clear yellow serum were drawn off, with much temporary relief; but the abdomen soon refilled, with an accession of all the symptoms. No marked change, however, occurred in the heart sounds, which continued regular, quick, and feeble, without bruit. The operation of paracentesis was three times repeated with relief, but the patient grew weaker, and sank on Feb. 19th, four months from date of admission, his age being thirty-six.

Autopsy, twelve hours after death.—Body of a marked icteric hue, not at all blue or venous in appearance; upper half wasted, lower half œdematous. Abdomen much and uniformly distended, but without enlarged veins. — Thorax: Muscular coverings wasted; cartilages of ribs ossified. Right lung forced upwards, much congested, and intimately attached to the side by old adhesions. Left lung in a similar condition, but atrophied, and occupying only the mere apex of the thoracic cavity; the remainder of this space being occupied by an immensely hypertrophied heart, enlarged from above downwards, the shape of a distended stomach with a slight constriction across the left third, weighing, with adherent pericardium, attached vessels, and blood-clots, 2 lb. 9¼ oz., and clear of these 2 lb. 1½ oz. The right auricle, being laid open, was found extremely dilated and full of dark jelly-like clots. The superior vena cava opened into the appendix, and was also dilated; the foramen ovale was only partially closed, there being three crescentic openings, the size of a pea, in the lower border of the septum, each having a raised and well-defined margin, giving to the septum at this point a cribriform appearance. The opening of the inferior vena cava was absent; the coronary vein was extremely enlarged; the Eustachian and Thebasian valves were well marked, and the diameter of the auriculo-ventricular opening was 1·67 in.; the lappets of the valves were thickened, puckered, and imperfect. The left auricle was dilated, full of jelly-like clots, and having, in addition to its ordinary opening, that of the inferior vena cava, and at a point posteriorly and inferiorly and on the same plane, but posterior to the mitral orifice; the direction of this opening being clearly towards the cribriform septum ovale, whilst the pulmonary veins opened into the auricle superiorly, and their direction was towards the mitral orifice, the diameter of which was 1·45 in., and its valves were normal. The right ventricle was full of the same jelly-like clots, but did not offer any point for special notice; diameter of pulmonary artery, 1·18 in. The left ventricle formed the greater part of the entire weight of the heart; its apex being prolonged through a wide mouth into a large sacculated aneurism, the size of an ordinary orange, which was filled with layers of laminated fibrine; the external ones honeycombed and dense, the interior ones lying next the cavity of the ventricle being softer masses and without determinate form and character. The ventricular walls were slightly thickened, but prolonged for a short distance into the aneurismal walls, the limiting membrane of the main dilatation being composed of the adherent and thickened pericardium, on the outer edge of which was a bony plate or spicula, the result of tissue degeneration. The aorta was thin and flabby; no atheroma observed. Diameter of aortic opening, 1·03 in. Valves healthy. No fibrinous clots in the heart or great vessels.—Abdomen: Liver rounded and contracted on its surface; capsule densely thickened; weight 2 lb. 7¾ oz.; tissue presenting an excellent example of cirrhosis. Kidneys small and contracted; two cysts in the cortical substance of the left, lined by a distinct membrane, and containing a serous-looking fluid, with a depressed, yellow, cheesy-looking spot, found on section to extend inwards to the base of the pyramid, its exact nature being uncertain, but like the remains of the wall of a cyst such as that noted on the surface. Some serum and flaky lymph in the cavity of the peritoneum. Intestines distended and inflamed, and some of the intestinal convolutions glued together by recent lymph.

Remarks.—A consideration of the following points in this very remarkable and apparently unique case will, I think, be full of interest, and perhaps enable us the better to understand it.

1. The changes in the anatomy of the heart: (*a*) congenital; (*b*) structural, as the result of disease, or of both causes combined.
2. The changes in the adult circulation.
3. Perfect health and vigour up to thirty-five years of age.
4. The absence of cyanosis.
5. Absence of physical signs of congenital change.
6. Their comparative significance and variableness during the last few months of life, whilst under observation.
7. The determining cause of the aneurism.

1. The congenital changes, then, were as follows:—(1) Superior vena cava opening into the appendix of the right auricle, which, together with the auricle itself, was extremely dilated. (2) Absence of the inferior vena cava from the right auricle. (3) A cribriform condition of the septum ovale. (4) The extremely large size of the coronary vein. (5) The inferior vena cava opening into the left auricle, in the position and manner detailed.

The disease changes were:—(1) Adherent pericardium. (2) Dilatation of cavities of the heart. (3) Thickened and puckered state of right auriculo-ventricular valve. (4) Thickening of left ventricle walls, which were prolonged for a short distance into (5) a large aneurism of the ventricle. (6) Increase in weight of heart, to 2 lb. 1¼ oz.

2. The changes from the ordinary course of the adult circulation were as follows:—The blood of the lower half of the body brought by the inferior vena cava, instead of passing into the right auricle direct, was carried first into the left, thence probably through the cribriform septum ovale into the right auricle, establishing thus a double current in the left auricle, composed of (*a*) venous blood, brought by the inferior cava for passage through the cribriform septum ovale into the right auricle, there to mingle with the stream from the superior cava passing into the right ventricle, thence into the lungs; and (*b*) arterial blood brought from the lungs by the pulmonary veins for passage into the left ventricle, thence to the aorta.

A consideration, then, of the above two conditions—viz., the changes in the anatomy of the heart, and the changes in the course of the circulation—may help us; but for a full and clear explanation of the case we must revert to the conditions of fœtal life.

It is, I think, evident that a communication between the two auricles through the septum ovale was a necessary consequence of the inferior cava opening into the left, otherwise the two currents of venous and arterial blood must have mixed freely. Again, the points of openings of the vessels and their directions, the alteration in the size of the chambers, &c., would materially influence the currents—e. g., the site of opening of the inferior cava and its direction towards the cribriform septum, and the openings of the pulmonary veins in a direction towards the mitral orifice, might enable the blood currents in the left auricle to pass each other without very greatly commingling; there must, however, have been some slight admixture of venous and arterial blood in the left auricle, although apparently very small, from the absence of cyanosis; for granting that the blood currents from the inferior cava passed into the right auricle through the septum ovale, yet, on the contraction of the right auricle, some venous blood must have regurgitated through the opening into the left auricle, although the major part of it may have gone into the ventricle in the ordinary course.

I have said, however, that we must look to the conditions of fœtal life for a complete understanding of the case, and those conditions will, I think, render it pretty clear; for we know that during the very early development of the fœtal heart there is but one auricle, which subsequently becomes divided by the development of a septum; and that though for a time the inferior vena cava does open direct into the left auricle, yet that with increasing growth and development the septum rises up on the left side of the entrance of the vein, and thus causes it, together with the superior vena cava, to open into the right auricle. We see, therefore, that the peculiarity in the present instance is really a remnant of very early fœtal life, yet that during that stage of fœtal development the course of the blood was from the right to the left auricle; whilst in the case under consideration, in adult life, the course of the stream was reversed. That such a condition should have continued into adult life, and that the subject should have enjoyed perfect health and strength, is not the less remarkable any more than that the course of the circulation, thus altered, should have flowed so evenly.

With regard to the conditions Nos. 3 and 4 noted, and referring to the health and constitutional vigour enjoyed by the subject, and the absence of cyanosis, it is, I believe, generally considered that the imperfect development which results in a direct communication between the two sides of the heart gives rise either to palpitation, dyspnœa, and an enfeebled existence, or to very early death; yet the subject in the present case was unusually strong and muscular, as stated, being known amongst his comrades as the little lion of the battalion, of free habit of life, and always ready for anything; and that he should have exhibited no sign of cyanosis is equally remarkable, unless the fact of the inferior cava opening into the left auricle in a line with the apertures in the septum, and so directing the current of the blood, may be sufficient to explain its absence; whilst we cannot here fail to be struck with the infinite power, wisdom, and skill by which Nature adapts herself to circumstances; or, in other words—if, indeed, we may venture to consider her as capable of error—how easily, having got into a difficulty, she rights herself; for surely, as above suggested, having put the inferior cava into the left auricle, she then left the septum ovale open, intending thereby, or in that way, to complete her form of creation, and to fit the creature for the work of life.

A consideration of points 5 and 6, as to absence of physical sign of patent septum ovale, is also surprising, a loud superficial murmur being usually heard over the site of the communication; but in the various examinations through which this subject had passed from time to time during a period of fifteen years' service nothing abnormal was ever detected, whilst its absence seems to prove that the passage of the blood through the cribriform septum into the right auricle was tolerably smooth and even, and the variableness and comparative insignificance of the physical signs of disease whilst under observation during the last few months of life was singular enough.

The physical signs on admission into hospital indicated a diseased condition of the tricuspid valves allowing of regurgitation, whilst percussion declared the hypertrophy, and both these conditions were realised in the post-mortem examination. As disease progressed the pulse became irregular, that at the wrist not corresponding to the beats of the heart either in force or frequency, whilst the tricuspid bruit disappeared entirely; and the fits of dyspnœa, with symptoms apparently due to pulmonary embolism at times observed, seemed fairly attributable to the altered condition of the heart and its valves as the result of disease quite irrespective of the congenital changes.

Lastly, as regards No. 7, the determining cause of the aneurism. Was it a strain in rowing, or some other act of over-exertion; tissue degeneration in the muscular structure of the ventricle in a man of free habit of life, of a gouty diathesis, having a bony plate or spicula on the limiting wall of the aneurism; or could it be at all of a congenital nature, originating partly in deficiency, more or less, of the muscular layers at the apex, or to changes in the force or direction of the blood-currents, consequent on the patent foramen ovale and other congenital irregularities?

The microscopical examination of the structure of the left ventricle walls by Dr. Welch, Assistant Professor of Pathology at Netley, and who, in conjunction with my valued friend and brother medical officer in the battalion, Dr. Harman, has so kindly aided my attempt towards a clear report of this very interesting and unusual case, failed to detect syphilitic or other precise tissue degeneration. Hence Dr. Welch is disposed to attribute the aneurism to some congenital deficiency in the muscular layers at the apex of the ventricle, where they are always the thinnest; but I incline to the belief that, with any congenital defect there, adult life would not have been reached, or if reached, the subject of such defect would not have been what he was in the present instance.

Consequently, though the microscope did fail to detect tissue degeneration, as there was an ossified state of the ribs, a bony plate on the pericardium, a diseased tricuspid valve, cirrhosis of liver, and contracted and diseased kidneys,

showing that tissue-change had for some time been going on in the ribs and other viscera of a man who had been addicted to the free use of spirits for years—itself always so pregnant a source of tissue degeneration,—both Dr. Harman and myself are disposed to attribute the aneurism to a strain in rowing, or some other violent exertion, by which a weak point in the ventricle was established, and which eventually yielded to subsequent pressure and tissue degeneration, and that at most the congenital condition of the ventricle and the anatomical changes in the heart were only secondary causes in operation.

Verne Citadel, Portland.

TYPHOID FEVER THE RESULT OF INSANITARY CONDITIONS.

BY ANGUS MACKINTOSH, M.D.,
MEDICAL OFFICER OF HEALTH, CHESTERFIELD.

As all professional men are not yet agreed on the real cause of typhoid fever and its *modus operandi*, it will be interesting to know any new circumstances that may favour or retard the poison or infection of this type of fever. I have reported elsewhere my belief that typhoid fever in every case is the result of a specific poison being introduced into the system, either through the medium of air or water, but I have yet to be convinced that the virus which causes this condition must be conveyed from one typhoid patient to another. The following case, which happened in my district ten weeks ago, is, in my opinion, an extremely strong one against the latter theory, and consequently worthy of being recorded.

About the end of December, 1873, a collier, with wife and four children, moved from the parish of Great Barlow, in the Chesterfield Union, to Long Row, Northwingfield, in the same Union, a distance of eight miles. Great Barlow is a rural parish and thinly populated; the population in 1871 was 959. So far as known to me, there has been no fatal case of typhoid in the parish for years, and none fatal or otherwise for the last nine months, during which period I have been acting as medical officer of health for the district. The house in which this man lived was an isolated one, and the conditions surrounding it, in a sanitary point of view, were very fair, so that, so far as can be traced, there was no chance of any poison or infection being conveyed with the man, wife, or family from their former home.

Long Row, to which the man, &c., went, consists of about thirty houses, and is also in a rural parish. Scarlet fever and measles have been lurking about the place more or less for the last six months, but there has been no case of typhoid or enteric fever in the Row for a considerable time. The house this man chose for his residence is about the middle of the Row, was previously occupied by a healthy family, and, so far as is known, there has been no enteric fever in it. The newly-arrived family used the same drinking-water as the rest of the inhabitants, which is procured from a well in a field about a quarter of a mile distant, and similar insanitary conditions as to sewage emanations surround each house, the privies and ashpits being at the same distance from every door in the Row. The drainage system, which is very imperfect, consists of an open surface-drain in front, and a trapped drain two yards from each house behind. The houses are of modern construction, and have through ventilation.

The new-comer was only about three weeks in this place when three of his boys were attacked with typhoid fever; the youngest, eight years old, was the first seized, then the other brothers; then their sister of twelve; after a few days the mother, and a fortnight later the father. Not one in the house escaped, and up to this date, when the family is quite convalescent, no other resident in the hamlet has caught the infection. Every precaution was adopted, and plenty of disinfectants freely used.

These facts would go to prove the following conclusions:—

1. That the family was free of the infection of typhoid fever when they came to the Long Row.

2. That the constant exposure to sewage emanations appears to protect the system in some degree against the effects of typhoid virus.

3. That, in some instances, individuals after a change of residence from a healthy locality to one favourable to typhoid fever are more susceptible to the poison than those long resident in it.

4. That the sewage emanations in this place were no doubt the cause of this attack, and that the stage of incubation was from fifteen to twenty days.

5. That sewage emanations are sufficient to create and produce typhoid fever, though not contaminated with the discharge of typhoid patients.

6. That unless the virus was totally destroyed by means of the regular system of disinfection carried out, this case would not go to prove the contagious nature of typhoid fever.

I may add, that since the beginning of 1874 I have had twenty cases of typhoid fever in my district, and not one of them could I trace to the presence of typhoid discharges in the water, or the effluvium proceeding from typhoid evacuations; and, what is very singular, two cases have not occurred in the same place (with the exceptions of the family above-mentioned); they were sprinkled over the district, and almost the whole were associated with sewage emanations and organic decomposition, and in some cases polluted water.

A Mirror OF HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CASE OF ENTERIC FEVER, WITH TYPHOID SYMPTOMS PROLONGED INTO A PERIOD OF NORMAL AVERAGE TEMPERATURES.

(Under the care of Dr. HENRY THOMPSON.)

THE following case is interesting in several particulars. It illustrates, for example, how a differential diagnosis may be made between typhus and typhoid fevers by regarding the history of the attack in those instances where the clinical manifestations are more or less equivocal. More important still, perhaps, is the evidence which this case seems to offer of thermometric defections. It is this phase of the question which Dr. Thompson has more especially discussed in the valuable remarks appended to the subjoined notes.

Edward B——, aged thirty-nine, a cabman, was admitted March 14th, 1874. Three weeks before admission he experienced a feeling of general malaise and languor, and thought he had a cold, but went on with his work as usual. Fourteen days before the same date he was compelled to keep his bed, shivered several times, and suffered from intense headache. During the three or four days preceding admission there had been twitchings of the muscles, and during the last two days delirium; but never at any time diarrhœa; on the contrary, the bowels had been constipated for six days.

At 7 P.M. on the day of admission the pulse was 144, the respiration 44, and the temperature 101·2°; complexion dull and earthy-yellow; marked nervous twitching of the hands and occasionally of the face; some degree of deafness; pupils small; tongue dry, brown, and fissured; abdomen mottled in appearance and greatly distended; no fever-spots of any kind; no tenderness; area of splenic dulness much enlarged; sonoro-sibilant râles throughout chest; looked livid in the face, spoke feebly, and coughed in a hoarse laryngeal tone. In the evening he passed urine in bed, jerked his knees about, and picked the bedclothes.

March 15th.—Lies in a state of profound sopor. There are sordes on the lips and much subsultus tendinum, with floccitation and carphology. Passed urine and four loose dark-coloured motions under him.—Morning: pulse 132;

respiration 28; temperature 100·2°. Evening: pulse 128; respiration 28; temperature 99·1°. These observations were taken at 9 A.M. and at 9 P.M. respectively.

16th.—Appears much brighter, and answers questions rationally. There is less twitching of the muscles, and the abdomen is less distinctly mottled than on admission.—Morning: pulse 128; respiration 32; temperature 99·1°. Evening: pulse 132; respiration 32; temperature 98·8°.

17th.—Spent a good night. Urine at times passed naturally; specific gravity 1020; no albumen. One yellowish-green pultaceous motion passed in bed. Abdomen tense, but no longer mottled.—Morning: pulse 132; respiration 32; temperature 98·6°. Evening: pulse 136; respiration 20; temperature 98·6°.

18th.—Abdomen voluminous, but not tender; motions passed involuntarily, urine naturally. He was delirious during the night, and got out of bed under a strong delusion. Floccitation and carphology continue.—Morning: pulse 140; respiration 40; temperature 99·4°. Evening: pulse 132; temperature 98°.

19th.—Vomited last evening; passed a natural motion of semi-solid consistence; still tremulous, still delirious, and constantly trying to get out of bed; slight carphology.—Morning: pulse 132; respiration 32; temperature 98·4°. Evening: pulse 132; respiration 38; temperature 99·2°.

20th.—This morning vomited nearly a porringerful of dark-brown flaky matter looking suspiciously like blood, but no blood-corpuscles were seen under the microscope; tongue dry and brown; great distension of abdomen.—Morning: pulse 132; respiration 40; temperature 98·6°. Evening: pulse 144; temperature 99°.

21st.—In great pain, referred to umbilical region; abdomen enormously distended; pulse fuller and steadier; less subsultus.—Morning: pulse 120; temperature 98°. Evening: pulse 116; respiration 24; temperature 99°.

22nd.—Speaks clearly for the first time.—Morning: pulse 132; respiration 44; temperature 98°. Evening: pulse 120; respiration 28; temperature 97·8°.

23rd.—No subsultus; abdomen has returned to its natural size.—Morning: pulse 124; temperature 98°. Evening: pulse 120; temperature 98·2°.

From this time forth convalescence advanced steadily, without let or drawback, except that the pulse ruled high, seldom falling below 100, and never below 90. The patient was discharged April 21st.

The treatment consisted of alcoholic stimuli, oil of turpentine, sulphuric and gallic acids, and quinine in doses never exceeding six grains in the course of the day.

Remarks by Dr. THOMPSON.—There were on admission many features in the above case in a high degree characteristic of typhus. The dusky, dull complexion, the small pupil, and the mottled surface of the abdomen, which never presented a single rose-coloured spot from first to last, were all of this nature. And yet it was clear in the beginning, from the mode of invasion, and from the duration of the disease, and it became clearer every day from the course and character of the ensuing symptoms, that the case was one of enteric fever. The duskiness of the complexion proved in the end to be natural. The main interest of the case centres in the prolongation of the so-called typhoid symptoms far beyond the point at which the thermometer alone would have fixed for the commencement, or even for the consummation, of their entire disappearance. On the evening of March 16th the temperature fell to 98·8°; nor was this an isolated example, a chance interpolation in the midst of a higher prevailing average; on the contrary, to all appearance it betokened the coming of convalescence; it stood at the head of a long list of readings, all ranging immediately within the neighbourhood of the normal, with deviations above and below that level, but never exceeding 99·4° in one direction, or 97·4° in the other. During a series of seven days, reckoned inclusively from the 16th, the average temperature amounted in the morning to 98·6°, in the evening to 98·5°; while during the first four days of the series the average was—for the morning, 98·8°; for the evening, 98·6°. Surely one might have expected a decided abatement in the severity of the symptoms even from the beginning of the period above defined. Some slight amendment must indeed be conceded to the first three days of that period; the stupor ceased, the muscular twitchings declined in frequency, and the urine at length passed naturally; in other respects there was no amelioration at all. The delirium seemed to be worse than ever, the tremors and involuntary passage of fæces continued in full force, while the patient pawed the air and picked the bedclothes just as he had done during the height of the fever, so far as it came within our observation. It was not until the following day, the 19th, that the carphology appeared to be subsiding, it was not until the 20th that the delirium and the tremors came to an end, and it was not until the 22nd (the seventh day in the series) that the subsultus—the last of the typhoid symptoms—disappeared entirely, and true convalescence began. All the while the pulse ran high, maintaining an average of 130. Of course it might be argued that the dark-coloured motions of the 15th contained blood, and that the hæmorrhage kept down the temperature. The fall, however, at the time was insignificant, and the hæmorrhage, if hæmorrhage it was, must have been quite incapable of lowering the body-heat for a permanence. Again, it is easy to say that the observations should have been taken oftener than in the morning and evening alone; and that during some of the long intervening periods the temperature may have reached a far higher level than any I have recorded. This, of course, is just conceivable; but the odds are enormously against it, seeing that from beginning to end the highest ascertained reading never surpassed 101·2°.

On the whole, although it may be heresy to say so in these days, is there not enough in the foregoing anomalies to make us pause before we subscribe to all the dogmas of thermometry? Naturally, the physician looks with confidence on the first fall of the temperature below 99°—at any rate if it occur in the evening—as a conspicuous guide or landmark to direct the course of his proceedings in the after-management of the case; provided always it be the foremost in a steady series of corresponding registrations. He has only to glance backwards at this date, and he feels himself, as a rule, on fairly safe ground in estimating at any given moment the propriety of relaxing the rigour of the ordinances hitherto enforced. Now, it was altogether impossible for us to feel any assurance of the kind, or to take any step whatever in deference to the date in question, which, in this case, arrived long before it was due; and, if similar cases should accumulate, the value of the guiding date will be seriously discredited. I have no wish to scoff at the cultus of the thermometer simply because it is not infallible or all-sufficient. After all, it was right in the main issue, for the man recovered. It was wrong, however, in its chronology and as a practical guide, and in this respect I deeply deplore its shortcomings.

SEAMEN'S HOSPITAL, GREENWICH.

AMPUTATION OF BOTH FEET BY SYME'S METHOD.

(Under the care of Mr. W. JOHNSON SMITH.)

NOT the least interesting point in the following case is the fact that after recovery the right leg was one inch longer than the left—a condition evidently due to the formation of new bone from the periosteum that had been stripped off the right calcaneum at the time of operation. This ingenious application of a physiological fact has not, we think, received the attention which it deserves. By removing the periosteum for some distance from the part of the bone that is about to be removed in an amputation it will not unfrequently happen that after recovery the stump is well formed and rounded, and the end of the bone presenting a large, mushroom-like mass of firm osseous tissue, formed from the periosteum membrane. Further, after this mode of operating the reparative processes in the bone tissue are considerably accelerated. Mr. Bryant, of Guy's Hospital, has frequently practised amputation after this plan, and at the present time there is under that gentleman's care in the hospital a case of amputation through the thigh illustrating its great value.

John A——, aged nineteen, a mulatto, from Nevis, one of the Leeward islands, was admitted on November 5th, 1873, with commencing gangrene of both feet from exposure to wet and cold. He had been a sailor for nine months. The last passage was from Surinam, and occupied thirty-nine days. During a greater part of the passage the patient worked with his feet quite bare. He remained in good health and free from pain until the Channel had been

reached. Here, after a prolonged exposure to bad weather, his feet became inflamed and very painful. He was obliged to discontinue working, and, on the arrival of his ship in the Thames, was brought to this hospital.

On admission, both feet were swollen. The toes of each extremity were cold and insensible, and the remaining portions of each foot still warm, but very painful when touched. At the end of the first week, the extremities having been enclosed in thick layers of wadding and elevated above the level of the body, the loss of vitality had on either side involved most of the foot both on the dorsal and the plantar surfaces, somewhat more of the left than of the right foot being involved in the gangrene. The toes became small and much shrivelled, and the surfaces of the gangrenous portions of the feet cold, deep-black in colour, and very hard, so that when tapped sharply by a director they sounded like pieces of marble. The parts remained in this condition for two weeks, no line of demarcation being formed, and no discharge taking place from the gangrenous or contiguous portions. At the end of this period a well-marked band of ulceration was formed on each foot, and increased rapidly in depth, passing in the right foot transversely across the dorsum, over the posterior extremities of the metatarsal bones, and very obliquely across the plantar surface, from near the posterior extremity of the heel on the outer surface to the base of the first metatarsal bone. In the left foot the line of demarcation passed transversely across both the dorsal and the plantar surface, leaving in the latter region but one inch and a half of sound skin, measured from before backwards. The separation of the dead from the living parts proceeded rapidly, and was attended by profuse discharge, some pain in both legs, and much constitutional disturbance. The lymphatics of the right leg became inflamed, and the right popliteal and femoral glands much swollen.

On the partial subsidence of the inflammation in the left leg, it was decided upon to remove the feet, as constant pain and intense constitutional reaction were seriously affecting the health of the patient. On Dec. 17th, chloroform having been administered, an examination was first made of both feet, with a view to preserving as much structure as possible and retaining one or more of the tarsal bones on either side. It was found, however, that the soft parts of the heels had been too much destroyed and the lower surfaces of the heel-bones too much exposed and roughened to admit of any proceeding short of total removal of the bones of the feet. The right foot was first removed, a flap being formed from the soft parts at the back of the heel, the ankle-joint then opened, and the cartilaginous extremities of the bones of the leg removed. The left foot was next removed in a similar manner. The soft parts forming the flap in the right extremity were swollen and very soft, in consequence of inflammation, and the periosteum over the lower and posterior surfaces of the os calcis could be readily separated from the bone. In the left foot the soft parts were in a healthier condition, and the periosteum firmly attached to the os calcis, with which bone it was removed, no attempt having been made on this side to retain the membrane. Esmarch's method of arresting hæmorrhage was practised in each limb, the elastic bandage being carried upwards from the line of demarcation after elevation of the limb, and the constricting band applied in the middle third of each leg. No excessive hæmorrhage followed the removal of the elastic band.

For five days after the operations there was much fever, in consequence of suppuration in the right popliteal space, the result of glandular irritation. After the pus had been let out by a free incision, the patient rapidly improved in health and appearance. The amputation-wounds closed speedily, with but little suppuration, and without any tendency to sloughing of the posterior flaps. On Jan. 15th the wounds were almost closed, and the patient was allowed to get up. On Feb. 5th both stumps were sound; that on the left side capable of bearing the weight of the patient's body, the right one tender on the application of much force; both stumps were capable of bearing, without pain, the firmest manual pressure.

On March 16th the patient was supplied with a pair of boots, each padded in front, and furnished with lateral irons extending upwards to the upper third of the leg, where they were fixed by a circular band of leather passing round the limb. With these the patient was soon able to move about. On April 16th he was reported as cured, and was then able to walk easily, rapidly, and over a considerable distance. The stumps were quite sound and free from tenderness, and locomotion was effected with but slightly appreciable lameness, even when no stick was used. The right leg was one inch longer than the left, and its extremity was harder and more rounded, resembling very much a stump formed by Pirogoff's operation. This condition was manifestly due to a copious deposit of new bone, which had probably been thrown out by the periosteum scraped away from the right heel-bone at the time of the amputation.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.

PERINEURITIS WITH SUDDEN LOSS OF SIGHT.

(Under the care of Mr. LLOYD OWEN.)

IN the following case there are two special points of interest—first, the extreme rapidity with which blindness came on; secondly, the curious appearances visible with the ophthalmoscope in the neighbourhood of the macula lutea during the subsidence of the disease. From the notes of the case it will be seen that blindness came on in a few seconds, in an eye that had been previously used for some hours during the day in very delicate work. This blindness was not temporary and partial, such as frequently occurs in neuro-retinitis, but complete, and in spite of treatment has remained with but little change to present date. The unusual suddenness and completeness of this symptom were, in all probability, due to a rapid invasion of the macula lutea by inflammatory effusion; and its permanence can only be explained by some destructive action exercised by the infiltrated matters upon the highly sensitive structures of this region. It was during the progress of the changes in the neighbourhood of the macula that the second point of interest alluded to was observed. This was a remarkable likeness both in colour and method of arrangement of the exuded material to the conditions seen in nephritic retinitis. So remarkable was this appearance, together with the subsiding infiltration of the retina (which had previously been intense), and the lessened perineuritic exudation, that an opinion in favour of nephritic retinitis might almost have been founded upon the retinal appearances. There was, however, no albumen in the urine, and no trace nor suspicion of renal disease.

T. P——, aged thirty-five, watchmaker, married, came under care July 21st, 1873, complaining of sudden and complete loss of the sight of the left eye. No history of syphilis or rheumatism. About six weeks before admission he suffered from headache, especially over left temple and superciliary region, and from deafness of left side. On July 12th, as he sat at his work, he suddenly lost consciousness; he did not fall, but ceased to see and hear. After a few seconds, he roused himself, and resumed his work. He experienced no further trouble, except headache, and continued at his work until July 15th. On the evening of that day, after having used the watchmaker's lens with the left eye more or less during the whole day, he suddenly lost the sight of the left eye. He described the occurrence in the following manner. He was sitting at supper when he suddenly noticed that a dense cloud appeared to obscure everything before his left eye. He had no pain or any other sensation. From that time to the date of admission he had not had the least quantitative perception of light.

On examining the eye with the ophthalmoscope, he was found unable to perceive the light thrown from the mirror. The optic papilla appeared a little swollen, slightly reddened (when compared with the fellow *almost normal*), and faintly obscured at the margin by a greyish haze. The retina immediately round the papilla was opaque, œdematous, and the seat of a greyish-white exudation, containing white glistening specks. This was especially marked at the apparent inner side of the papilla. The retinal arteries were small throughout their course, and were interrupted immediately round the papilla by exudation. The veins were rather full and much less interrupted. The whole of the central retinal field was intensely œdematous, and presented an opaque greyish-white appearance. In the neighbourhood of the macula lutea the opacity was very marked, and the red of the choroid showed here in marked contrast.

The tension was normal. The right eye was perfectly normal. He was ordered mercury, a blister to the nucha, and abstraction of blood from the temple.

July 24th.—The optic papilla, when compared with that of the right eye, looked almost normal—a little hazy at the margin. Retina rapidly losing its opaque look.

29th.—Has been mercurialised. Exudation fast disappearing on apparent outer side of the papilla. Normal colour of the retina almost re-established between the papilla and macula. Ordered seven grains and a half of iodide of potassium three times a day.

Aug. 11th.—Margin of papilla now clearly defined; surface pale; veins and arteries decidedly smaller than in the right eye, retina presenting only the slightest opacity. In the neighbourhood of the macula are small, brilliant, yellowish-white spots, with dark shadings arranged around the macula in two concentric circles. V= finger very indistinctly.

From this date to Feb. 2nd, 1874, no improvement in vision was noticed; the papilla gradually became white, the retina appearing normal. He was ordered strychnia in increasing doses, with twenty drops of tincture of capsicum three times a day.

March 26th.—The strychnia has been increased to one-seventh of a grain three times daily, without the least decided improvement. The right eye still remains perfectly healthy.

Medical Societies.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, APRIL 1ST, 1874.

DR. E. J. TILT, PRESIDENT, IN THE CHAIR.

THE following gentlemen were elected Fellows of the Society:—A. M. Adam, M.D., Boston; Oliver Barber, M.R.C.S., Sheffield; G. Boddaert, M.D., Ghent; C. M. Crombie, M.B., Aberdeen; Robert M. Fraser, L.R.C.P. Edin., Darlington; J. Thamar Jones, M.R.C.S., Llanfyllin; H. H. Dendy Lewis, M.R.C.S., London; J. H. M'Callum, M.B., Toronto; Gustave Simon, M.D., Heidelberg; Alex. D. Sinclair, M.D., Boston, U.S.; and Stephen Skinner, M.B., Clevedon.

Dr. EDIS exhibited for Dr. GEO. F. B. WILLING, of Great Wakering, a Fœtus of five months and ten days, dating from the last catamenial period. Premature labour resulted from a fall a week previously. Immediately the child was born it cried so loudly that it was heard distinctly down stairs, and continued at intervals to cry as loudly as a full-grown infant. It was fed by a spoon with gruel, which it took without any trouble, but it could never be got warm; indeed, it was almost stone cold. It passed meconium, but no urine. The eyelids were perfectly closed. Its weight was 1¼ lb., and length 11 inches. It lived forty-four hours. Dr. Willing stated that in all his practice, extending over twenty-five years, although he had attended between two and three thousand cases, he had never met with a similar instance.

Dr. BARNES alluded to his previous researches, where, on examining the lungs, although the children had cried, the lungs sank in water, the air-cells were not properly developed, and the children were not viable.

Dr. HEYWOOD SMITH referred to a case similar to the one narrated occurring in a patient at Soho, where premature labour had been induced on account of cancer of the uterus.

Dr. WYNN WILLIAMS related an instance occurring in his practice where an infant of about five months' gestation had cried after birth, and then died shortly afterwards, in which case he had given a certificate of still-birth, regarding it as non-viable.

Dr. SAVAGE doubted if a child could cry without breathing.

Dr. PLAYFAIR thought there must be air to produce a cry. He alluded to the case of Mungo Park, the celebrated traveller, who had craniotomy performed on him at the time of his birth, but yet lived for many years.

Dr. COOPER ROSE remarked that a simple effort at respiration, resulting in a sound resembling a cry, could hardly be accepted as evidence of a living child, and he instanced a case of craniotomy occurring in his presence, where the brain was utterly destroyed, and yet an effort to cry was made after birth, in consequence of the medulla oblongata not having been disorganised.

Dr. ROUTH said that the specimen was one of interest chiefly as bearing on the question of viability, but he could not doubt that if a child had cried lustily it must have lived, and he could not agree with Dr. Williams that it should be returned as still-born. It might not be viable, but it was alive, and by English law that was sufficient to prove right of inheritance. It would be interesting if a committee could report on this case and ascertain the condition of the lungs, as alluded to by Dr. Barnes, as well as the exact age of the child.

The PRESIDENT suggested that Dr. Routh and Dr. Savage should examine and report upon it.

Mr. STEWART exhibited a Night-dress, designed at Dr. Barnes's suggestion, for ladies during their lying-in, where frequent changes are necessary without raising the patient. It was entirely open at the back and closed in front, excepting apertures at each breast. The patient being on her back, both sleeves are drawn on the sides, being then tucked under without moving her, except on either side, to allow of the dress being buttoned behind. Messrs. Burden and Kerr, of Conduit-street, were the makers. Mr. Stewart, also showed a Legging for varicose veins, substituting a rigid material for the elastic. It was cool and washable, and exerted uniform pressure.

Mr. THOS. LIDDARD exhibited an Inhaler for Chloroform, alone or in combination with alcohol or ether. It is cylindrical in shape and divided into two chambers by means of a revolving band which opens or closes the holes admitting air to the chambers. The proportion of chloroform inspired by the patient can be estimated and regulated.

Dr. WILTSHIRE showed some protected Perforators which he had devised. They are modifications of Oldham's and Simpson's perforators, each being furnished with a guard or sheath completely covering the point and blade of the instrument. So protected, it could be introduced into and withdrawn from the vagina without the slightest risk of injury to the maternal parts, the guard being withdrawn only when the fœtal head was reached, and after perforation being restored before withdrawal, so as completely to obviate the possibility of injury to the mother. The instruments were quite powerful enough, though considerably lighter than the unprotected perforators now in use, and they could readily be cleaned, the guard being movable.

Dr. HEYWOOD SMITH spoke of the advantage of the point being curved.

The adjourned discussion on Dr. Playfair's paper on

PUERPERAL THROMBOSIS

then took place. A short abstract was read referring to the principal points of interest.

The PRESIDENT referred briefly to previous speakers' remarks, and cited the clinical history of a case given in Dr. Fordyce Barker's work on Puerperal Diseases.

Dr. SAVAGE said he had been an attentive listener to Dr. Playfair's paper, but had failed to discover anything in it which had not been already discussed and recorded. He should regret having moved for the adjournment if the discussion must be limited to puerperal phenomena. The subject was a wide one, and could not, with profit, be partially entertained. Thrombosis, embolism, and Virchow were of course inseparable, but in the present communication he (Dr. Savage) thought the germ of Virchow's doctrine was altogether omitted. Dr. Playfair, however, was in antagonism with Virchow. He had, after much research, traced out twenty-five cases of pulmonary embolism, ten of which were not peripheral, but he omits all mention of the multitude of Virchow's cases, proving the prevalence of this source of the disorder. In the year 1855–6, Virchow, owing to a puerperal epidemic which lasted quite a year and a half, had under his immediate notice a multitude of fatal cases; in every one of these attended by pulmonary embolic complications he found pelvic venous thrombus, more or less. Moreover the character of the embolic particles in the pulmonary artery always corresponded exactly with those of the pelvic thrombus. A secondary thrombus as large as the thumb may be derived, says Virchow, from a primary

thrombus in a vein no larger than a knitting-needle. Dr. Playfair's ten exceptions might, after all, have been peripheral with the primary thrombus overlooked. Dr. Playfair considered phlegmasia dolens as "correlated"—that is, it comes under the thrombic class of affections. This was precisely the view of it taken by Davis in 1822, and more emphatically established by Robert Lee some years after. That pathology of it had stood its ground ever since. Dr. Playfair had omitted septic and non-septic uterine venous thrombi from the correlation. In a paper of this length some notice might be expected to be taken as to the rarity of pulmonic complication with phlegmasia dolens, the frequency of it in the worst forms of septic uterine thrombus, and the liability to ordinary pulmonic embolism in non-septic uterine thrombus.

Dr. MADGE observed that although he had attended 3000 cases he had never met with a case of thrombosis. He thought the analogy between phlegmasia dolens and thrombus rather a forced one.

Dr. RICHARDSON vindicated the English school of medicine for the advancement it had made in the knowledge of the subject of separation of fibrine in the body during life. The study was as essentially English as was the discovery of the circulation of the blood, of which, indeed, this was but a corollary. This position was maintained by reference to the works of different authors, from William Gould in 1684 up to the present day. Referring to his own observations, Dr. Richardson described, from his experience, the conditions that lead to separation of fibrine within the circulatory channels during life, especially the two conditions of cachectic and acute pyrexia. The cause of the separation of the fibrine was noticed as a disturbance in the relations which naturally subsist between the fibrine and the water of the blood—a disturbance that might be excited by increase of water and by increment of heat in the blood. Whatever led to these two conditions favoured the process of separation; and when, in addition, there was obstruction to the due course of the blood, so that friction of the blood existed at some particular point, the separation was all but inevitable. The action of an organic or septic poison might produce conditions that lead to separation; but the same conditions, as Dr. Richardson had shown experimentally in 1854, might be induced by other causes, and with the same secondary result—namely, the separation of fibrine. From the author's experience of cases of this in the human subject, he estimated that the separation occurred on the venous side of the circulation in not less than six cases to one on the arterial. He maintained still the view he had held all through the course of his labours—that, as a rule, the separation takes place on the venous side at the spot where it is found. In the numerous inspections he had made of fibrine separated in the pulmonary artery after death by surgical fever, pneumonia, the puerperal state, and various other forms of death, he had not in a single instance been able to come to the conclusion that the fibrinous mass had been carried from a distant part of the venous circuit; on the contrary, he had always discovered the clearest evidence of formation *in situ*. He had found, in some instances, separation in other parts of the venous circuit. On the question of diagnosis of separation of fibrine in the pulmonary artery and in the venous circuit, Dr. Richardson entered into careful detail. He first defined a class of cases in which the symptoms of separation were simulated, and afterwards the symptoms, general and physical, that lead to an absolute diagnosis. The mode in which cases terminate when the obstructing fibrine was on the right side of the heart and in the pulmonary artery was varied. Unfortunately it was almost always at once fatal, but he had records of other modes of termination; one in which the obstruction produced œdema of the lower extremities and a lingering death; others in which the separated substance was retained in the heart for a long period of time, killing at last suddenly, by obstruction to the course of the blood; and, lastly, in three cases he had seen what he believed was actual recovery by the resolution of the separated fibrine. In concluding his observations, Dr. Richardson dwelt on the subject of treatment. Opium, excess of wine or brandy, and movement of the body he held to be injurious, and even dangerous methods of treatment. The plan he pursued was to maintain perfect rest of the body in the recumbent position, to reduce the temperature by iced drinks, and to sustain by milk and soda-water. Medicinally he administered ammonia in ice-water until it suspended the coagulability of the blood, and he kept this action up by large and frequently repeated doses. From fifteen to twenty minims of the strong solution of ammonia, or, better still, the strong alcoholic solution of ammonia, might thus be administered in the course of every two hours in divided quantities, and the effect might be sustained until the blood-corpuscles began to show signs of solution.

Dr. PLAYFAIR said that any reply to the observations that had been made seemed unnecessary. Dr. Savage had found fault with his paper as treating of a subject which he appeared to think was exhausted; so far was this from being the case, there was not a single English text-book on midwifery in which it was even alluded to, not even in the recent and admirable work of Dr. Leishman, published only a few months ago. Indeed, the present paper was the first attempt to collect together the information which existed in regard to thrombosis and embolism in reference to the puerperal state. It should be remembered that Virchow's writings referred to the subject in general, not to its obstetric relations; and, when the paper was written, Dr. Fordyce Barker's work had not appeared. He (Dr. Playfair) contested Virchow's view as to the invariable embolic origin of pulmonary and cardiac clots, and to this Dr. Savage took exception. He was gratified to find, however, that he had Dr. Richardson's high authority in support of his view. There was little in Dr. Richardson's remarks that called for comment; they contained nothing in opposition to what was stated in his paper. With regard to the ammonia in the blood maintaining the fibrine in solution, Dr. Richardson's remarks showed that he had abandoned the theory. The administration of ammonia on the hypothesis that it would aid the solution of the fibrine already deposited was an entirely different thing, and on that ground the remedy might be well worthy of trial in future cases.

Reviews and Notices of Books.

Sex in Education. By EDWARD H. CLARKE, M.D. Boston: J. R. Osgood and Co.—"Identical education of the two sexes is a crime before God and humanity that physiology protests against and that experience weeps over." The author contends that each human unit is possessed of a given amount of vital force, to be divided in the male between the functions of cerebration and nutrition, but in the female to be distributed between cerebration, nutrition, and the periodic functions of the reproductive organs. It is therefore evident that the woman has by nature proportionately less disposable brain-power, and that to bring up cerebration to the male standard an equivalent of nerve-current must be diverted from its legitimate use in the catamenial direction. Hence for one-fourth of mature existence woman must either relax the competition or purchase temporary mental equality at the cost of grave physical disability. The book has not been written to demonstrate the intellectual inferiority of woman, but to prove that, being thus heavily handicapped, she must, to equal man, be in reality more than man; and it refers more directly to the quantity than to the quality of brain-work. Dr. Clarke, while advocating most strongly the appropriate education of woman, even to the highest culture, deprecates as forcibly the present co-education of the sexes; and, warned by the pathological results of the American system, appeals to the female sex to remember that on them future generations are dependent, not only for existence, but for health of body and power of mind; and that when man has performed one-fourth more labour, physical or mental, he has then only reached the level at which they by nature stand. Although, in some instances, the author may be a little dogmatic in assigning cause and effect, and may attribute an undue excretory power, as regards the mass of the blood, to the menstrual flux, yet there is much common sense and considerable physiological truth in his treatise, and he has well handled a delicate subject.

Quarterly Journal of Microscopical Science. No. LIV., April, 1874. Edited by J. F. PAYNE, E. RAY LANKESTER, and W. T. DYER. London: Churchill.—The present part contains five memoirs—viz.: 1. Contribution to the Anatomy of the Sympathetic Ganglia of the Bladder in their relation to the Vascular System, by Francis Darwin. 2. A further *résumé* of recent observations on the Gonidia Question, by William Archer. 3. On Staining Sections with Magenta, by W. Hatchett Jackson. 4. The Gastræa Theory: the Phylogenetic Classification of the Animal Kingdom, and the Homology of the Germ Lamellæ, by Ernst Haeckel (translated by E. P. Wright). 5. Atmospheric Micrography, by Rev. M. J. Berkeley. In addition there are the usual notes, quarterly chronicle of microscopical science, and accounts of proceedings of the Society. Mr. Darwin describes a series of ganglia situated in the external coat of the bladder, from which nerves arise that can be distinctly followed to arteries. The veins appear to be very scantily supplied. Mr. Archer condenses the recently published views of Müller, Bornet, and Treub on the Gonidia question, all of whom support the views of Schwendener, to the effect that lichens consist of two primarily distinct elements—algæ and ascomycetes—in such a way that the algæ, or group of algal cells, becoming surrounded and involved, or (more rarely) permeated, by the ascomycete, serve the latter as assimilating host plant. The two together form the "lichen"; hence the former, long known as "gonidia," are not organs of the lichen, but foreign organisms pressed into its service, and so compelled to lead a new life. The memoir on the Gastræa theory by Haeckel is extremely interesting as showing the simplest type of the Metazoa, or animals possessing an intestine, or rather gastric, cavity, and the mode of origin of the body cavity, or *cœlom*, as Haeckel terms it, and the blastodermic lamellæ. Berkeley gives a short account of Cunningham's examination of air in India, the air being allowed to blow against slides painted with glycerine. These experiments show that enormous quantities of fungus spores are constantly floating in the atmosphere, but no connexion could be traced between the numbers of bacteria, spores, &c., present in the air and the occurrence of diarrhœa, dysentery, cholera, ague, or dengue.

Elements of Zoology for Schools and Science Classes. By M. HARBISON. pp. 172. W. Collins and Co. 1874.—This little manual is one of a series of elementary works published by the Messrs. Collins to meet the requirements of the South Kensington syllabus for students in science and art classes, and for the wants of the higher and middle class schools. The author is the head master of the Model School, Newtownards, county Down, and after examining several of the chapters carefully we are bound to say he has performed his task very satisfactorily, and has managed to compress a great deal of information into a small compass. The descriptions of the several classes to which the scope of the work is limited are clear and comprehensive. The drawings, which are about sixty in number, are well selected, and there is a series of questions at the end of each chapter. If the contents of such a book as this, together with a similar one on botany, were rendered thoroughly and practically familiar to the higher forms of schools, we should hear less of the unreality of the knowledge of natural history possessed by the younger men of our profession, and much valuable time at present spent in mastering the very rudiments of anatomy and physiology would be saved.

The Student's Guide to Zoology. A Manual of the Principles of Zoological Science. By ANDREW WILSON. pp. 327. London: J. and A. Churchill. 1874.—This book is complementary to the one we have noticed above, dealing as it does with the principles of zoological science, as opposed to morphological detail and the classification of the animal series. It is divided into fourteen chapters, which treat in succession of nearly all the more interesting questions of general physiology. Thus, we have short dissertations on the conditions of life; the distinction between plants and animals; the distinction between homology and analogy; the origin of species; the nature and objects of the various functions of the body, especially of that of reproduction, which is given rather fully; the doctrine of spontaneous generation; and the distribution of animal life in space and time. The elementary character of the work precludes any formal criticism of it, and it is only necessary to say that it is written in a very readable style, and that it forms a trustworthy guide to the student in zoology. The glossary might be considerably extended with advantage.

The Popular Science Monthly. May, 1874. Conducted by E. L. YOUMANS. New York: D. Appleton and Company, Broadway. 1874.—This is an ably conducted periodical which should have received notice at our hands before this. Besides containing a selection of the best contributions of the best men to current literature, the comments on passing events under the heading of "Editor's Table," and the literary notices, are generally both useful and interesting.

Qualitative Chemical Analysis and Laboratory Practice. By T. E. THORPE, Ph.D., F.R.S.E., &c., and M. M. PATTISON MUIR, F.R.S.E. London: Longmans, Green, and Co. 1874.—We are much pleased with this volume. The information is clear, simple, and well arranged, and the authors have certainly succeeded in their endeavours to make the book as practical as possible.

Cicero's Oration Pro Lege Manilia. Edited by THOMAS NASH, M.A., Balliol College, Oxford. London: Longman, Green, and Co. 1874.—Mr. Nash is a dexterous caterer for the young candidate at the Oxford and Cambridge Local Examinations, and the praise we recently bestowed on his edition of Horace's Epistles is still more merited by his edition of Cicero's earliest oratorical effort. The introduction is vigorously, if not very elegantly written, the critical notes are judicious and helpful, while the historical and geographical explanations will save the reader from having recourse to the cumbrous dictionaries of Smith.

The House-owner's Estimator; or, What will it cost to build, alter or repair? By JAMES D. SIMON, A.R.S., B.A. Lockwood and Co., Stationers' Hall-court.—Well-constructed and cheap houses are the starting-point in all sanitary and social reform; and Mr. Simon supplies some practical suggestions as to how the work may be honestly done at a fair price. In his useful and well-written treatise are given details as to waterclosets, drains, and the adequate supply of water for domestic purposes. A house fitted up on the basis of Mr. Simon's estimates can hardly fail to be both healthy and comfortable. The appendix explains the law of dilapidations, and contains an abstract of the Metropolitan Building Act.

The School and Children's Bible. Prepared under the superintendence of the Rev. William Rogers, M.A., Prebendary of St. Paul's, Chaplain in Ordinary to the Queen, and Rector of St. Botolph, Bishopsgate. London: Longmans. 1873.—To present the sacred volume in a form which shall be shorter and at the same time better adapted for the use of young persons—such is Mr. Rogers's intention in this edition of the Bible. Except in the Psalms, the language of the authorised version has been retained throughout. A few words of explanation have been added, and enclosed in brackets, to complete the connexion; but the editor attains his object by omissions only. His plan has been carried out with judgment, and will doubtless tend to an increased and more intelligent knowledge of the Bible.

THE LANCET.

LONDON: SATURDAY, MAY 9, 1874.

THE question of the higher education of woman has from time to time been freely and fully discussed, in its mental and moral as well as in its social and domestic aspects, by almost every literary and scientific periodical of the present day. We have ourselves on many occasions endeavoured to show that, as far as our own profession is concerned, woman, whatever may be her mental qualifications, is morally and physically unfitted for the onerous duties and the depressing anxieties of the medical practitioner. But, partly from the difficulty and partly from the delicacy of the subject, comparatively little has been said outside the medical profession on what may be deemed the really essential element in all the considerations which concern the extensions or the limitations of the sphere of activity of women—namely, the influence of sex. Even some who have recognised the mental and emotional peculiarities of woman, as distinguished from those of man, have allowed themselves to be blinded to a true appreciation of the fact by the prejudice of their preconceived opinions; and they have even gone so far as to maintain that these peculiarities, instead of being organic and fundamental, are the artificial results of education, dependence, and subjection. Ignorant of the real nature of the cerebral functions and of the influences which are reciprocally exerted thereon by all the inferior organs of the body, they have affirmed that there is no sex in mind, and that there should be none in education. But Dr. MAUDSLEY, in an excellent and able article published in the *Fortnightly Review* for the month of April, endeavours to show that in no case can the influence of the sexual organisation be safely disregarded in any attempts which may be made to raise the education or the social status of woman. "Let come what may," he says, "in the way of assimilation of female and male education and labour, it will not be possible to transform a woman into a man. To the end she will retain her special functions, and must have a special sphere of development and activity determined by the performance of those functions." He, moreover, asserts that these special functions positively declare themselves at the period of puberty, when by a development of the sexual system a revolution is wrought in the body and mind. At this period the menstrual functions manifest themselves, and, recurring with marked regularity for a long period of years, necessitate a drain on the general system "that would"—as Dr. EDWARD CLARKE, of Boston, says—"make the stroke oar of the University crew falter." And yet it is at about the time of puberty, when increasing demands are beginning to be made on the vital energy of the imperfectly developed woman, that the real educational strain commences. Hence she must not only sustain the fatigue of mental exertion, but must bear up against physical deterioration induced by the menstrual functions. Thus is woman unfairly weighted against man, and cannot hope with impunity to continue in the race with him. She may for a time appear to run well; she may attain scholastic distinction, and even some degree of scientific reputation; but she does it, Dr. MAUDSLEY maintains, at a risk that is altogether unwarrantable, and which must, in the majority of women, sooner or later end in serious damage to the general health, if not to the undoing of the female constitution.

But in this month's issue of the *Fortnightly Review* a counter-blast is attempted to be blown by Mrs. GARRETT-ANDERSON, who, although mildly reprimanding Dr. MAUDSLEY for bringing before the readers of a literary periodical a subject that cannot be "fully and with propriety discussed except in a professional journal," ventures to speak as plainly and directly as he has spoken on the influence of the sexual system on the female mind. And to do Mrs. ANDERSON the barest justice, we must say that, as far as speaking "plainly and directly" is concerned, she has given abundant satisfaction. We confess, however, that this lady appears to us to have entirely missed the point of Dr. MAUDSLEY'S argument; for she has almost confined herself to an advocacy of an improved system of education for woman, while Dr. MAUDSLEY simply condemned what he alleged to be a false system. If it were not for the fact that Mrs. ANDERSON in her article occasionally refers to Dr. MAUDSLEY'S paper, it would not be suspected that the former was intended as a reply to the latter. For instance, Mrs. ANDERSON argues that, "the educational methods followed by boys being admitted to be better than those hitherto followed by girls, it is necessary to show that these better methods would in some way interfere with the special functions of girls." Here, with exemplary ingenuousness, Mrs. ANDERSON begs the whole question at issue. It does not necessarily follow that because a particular method is good for boys it will also be good for girls. The reverse rather. Mrs. ANDERSON, and those who argue with her, would overturn the decrees of nature, and would, in addition to cultivating and developing the specialties of women, endow her with the characteristics of man.

In this country the system of the mixed education of the two sexes has not yet been tried on a sufficiently large scale or for a sufficiently long time to enable our physicians to make any definite observations of the effects of undue mental exertion on the general health of girls and of young women. But those who have had opportunities for observation cannot have failed to notice a marked absence of many of the moral and physical characteristics of woman in the majority of the female aspirants to the scholastic and professional honours hitherto monopolised by man. There is, in fact, the external evidences of the operation of an asexualising process,—whether as a cause or an effect we cannot say.

In America the system of mixed education has had an extensive trial. The women undergo the same course of education as men, meet in the same classes, attend the same lectures, and pass the same examinations in a highly creditable manner. But, on the other hand, some American physicians of high repute have alleged that the effects of such a training on the female organisation are such that many of the American women are physically and physio-

logically unable to perform the functions of maternity. Even some of the women who have yet retained sufficient of their sexual specialty to be capable of bearing children do not possess the natural instinct or capacity to nurse their offspring. Mrs. ANDERSON, however, attributes this to the "nervous" type of Americans of both sexes; and with remarkable simplicity says that "if we may judge at all from those whom we have an opportunity of seeing in Europe, it may be hoped that the race is not quite in such a bad plight as Dr. MAUDSLEY's quotations would lead us to fear." This is not the only instance in which Mrs. ANDERSON attempts to draw general deductions from the observations "in our own limited experience," as she modestly puts it. As well might she ask her readers to judge of the style of a building by showing them a sample brick.

Granting that something should be done to raise the education of woman, and to render the redundant women of this country capable of self-support and of independence, it cannot but be doubted whether the methods that have hitherto been proposed are best adapted to accomplish these objects. The mistake which the so-called advocates of woman's rights seem to have made is that they have presumed to alter woman's sphere of action, instead of trying to improve it. What is wanted is a better system of education adapted to the capacity and requirements of woman, and not an entire revolution involving the annihilation of those sexual distinctions which have existed from prehistoric times. It is not strictly logical to say that the mind of woman is inferior to that of man. It is of a different caste, and requires a special and peculiar training. It may be that the mind of woman is inferior to that of man when diverted from its own peculiar courses and applied to those studies for which man by nature and by art is specially adapted; but when confined to its own sphere it is, *quoad hoc*, superior. There is, in fact, one mind of the man and another mind of the woman, each of which for its complete development and elaboration must have its own sphere of activity. The best system of education for woman may not yet have been devised; but the worst system certainly is that which, in attempting to improve the mind, eventuates in the destruction or the perversion of the sex.

IN their Bill for amending the law relating to the Registration of Births and Deaths in England, the present Government have taken up a work which, in the sessions of 1872 and 1873, their predecessors essayed so faintheartedly that its successful accomplishment under such auspices was hardly to be looked for. Whether Mr. SCLATER-BOOTH will have better luck than Mr. STANSFELD with this measure, remains to be seen. Dr. LYON PLAYFAIR has intimated his intention to move the rejection of the Bill; but we fail to understand why so extreme a course should be adopted. The object should be to amend, not to reject the Bill; for it is most undesirable that so important an organisation as that by which the registration of births and deaths throughout the country is effected should be kept any longer in the unsettled state to which impending legislation inevitably gives rise, and failure of the third attempt to set the matter at rest would be discreditable to all concerned.

The primary object of the Bill is to render the registration of all births (excepting those of still-born children) compulsory in England, as it is in Scotland and Ireland, and to make the registration of deaths more perfect. To this end the category of legally-qualified "informants" of a birth or death is extended; and such informants are required to give notice to the registrar of a birth within six weeks and of a death within five days of the event's occurrence. Under the existing law no birth can be registered after the lapse of six months. In the Bill of 1872 this limit was raised to twelve months; and as we then strongly objected to the door of registration being absolutely shut at any time, we observe with satisfaction that provision is now made for the registration under special conditions of any births which may be found unregistered. With regard to still-born children, the registration officers have no concern with such now, nor is it proposed that they shall have; but the burial of live-born children as still-born is made a penal offence, and no still-born child is to be buried except under regulations which, we trust, will put at least some check upon the doings of the traffickers in infant life.

So far so good. But now we come to a serious defect, to which we call attention in order that so obvious a blot may be removed before the Bill becomes law. As we have said, the object of the Bill is to make registration compulsory; and this is no doubt intended to be compassed by converting the "may" of the present Registration Acts into the "shall" of the future law, as indicating the measure of obligation upon the legal informants to give notice to the registrars. But it is of little avail from the point of view of compulsion to prescribe an obligation without at the same time prescribing a penalty for its non-observance. Yet this is precisely what is done in the Bill before us. And the remarkable part of the affair is that, on a comparison of the Bills of 1873 and 1874, it is found that in the first of these the necessity for enforcing by a penalty the obligation of informants to give notice to the registrars is specifically recognised, while in the second it is ignored altogether. Clause 33 of the Bill of 1873 enacted that "every person required.....to give information concerning any birth or death.....who *fails to give the same*,.....*or* wilfully refuses to answer any question put to him by the registrar,..... shall be liable to a penalty of forty shillings for each offence." The words in italics are omitted in the corresponding clause (38) of the present Bill. No argument can be needed to show that the words in question involve the main principle of the Bill, and it is certain that they must be restored if the proposed legislation is not to miss its mark entirely. It may be that the omission is a mere oversight; but, anyhow, it will be for Parliament to take care that, in passing a law avowedly designed to make registration compulsory, the most effective means for attaining that end are not avoided.

Concerning the provisions contained in the Bill for obtaining a more complete certification of the causes of death, we have little to add to our former remarks upon the almost identical provisions in last year's Bill. (THE LANCET, May 3rd, 1873, page 635.) The medical profession are no

longer to enjoy the option they now possess of giving or withholding certificates of the causes of death of their patients, but it is to be made obligatory upon them to certify in all cases. Looked at in an equitable light, an enactment of this nature ought to carry with it a compensatory fee; but we confess to having little hope that past years of voluntary gratuitous service in supplying the Registration Department with information for the public benefit will be held, in these economical days, to give the profession a claim for remuneration, now that such information is found to be so valuable that its collection can no longer be allowed to rest on a voluntary basis. We are of course aware that the change will only affect the English practitioner in the same way that the Scotch and Irish Registration Acts have already affected his brethren in the sister kingdoms; but two wrongs do not make one right, and our columns have testified frequently enough to the soreness which this compulsory certification is likely to create in the profession. In saying, therefore, that from a professional standpoint the Bill is an improvement upon that of 1873, we must be understood as simply making the best of a bad bargain. The practitioner is not now to be called upon to state "truly" the cause of death, but to state it "to the best of his knowledge and belief"—a change of expression for which we felt bound last year to contend, and which we may consequently regard with satisfaction now that it has been adopted. We still urge that the form of medical certificate should be scheduled as it is in the Irish and Scotch Acts; and we remain of the opinion that a more elastic form should be substituted for the one now in use, it being essential that the practitioner should not be committed to any statement of fact (the age of the deceased for example) which does not arise out of his own personal observation.

In striking contrast to the care taken by the Bill for the proper certification of the causes of death of persons attended in their last illness by a medical practitioner, is the laxity manifested in respect of deaths occurring without medical attendance. Clause 20 enacts that where no medical certificate is forthcoming, and no inquest is held, the registrar, before registering the death, is simply to "take such means as he may think sufficient to satisfy himself that the death arose from natural causes." Of what earthly use it is supposed this provision is likely to be we have not the faintest notion.

IT is very desirable that the resolution carried at the meeting of the Court of Governors of King's College Hospital, held on the 2nd inst., should indicate the *finale* of the King's College Hospital *fiasco*. We may presume that the new Committee of Management will, in accordance with the recommendations adopted, enter into a new contract with the authorities of St. John's House, relegating to them the duties of the matron and the laundry departments. A great amount of tact and discrimination is required in making these appointments; but we entirely agree that they should be in the hands of those who are charged with the superintendence of the nursing and general arrangements. It is eminently necessary, however, that the relative position of the resident medical officer to the professional and nursing officials should be seriously considered; for we are bound to believe that the governors have accepted this among the other recommendations indicated by Lords SELBORNE and HATHERLEY, and that the future Committee of Management will proceed to act accordingly. We have always maintained, and shall continue to maintain, that the presence of a good-class resident professional officer acts as a sort of safety valve in all matters of hospital administration, and dissent entirely from the dictum of Dr. LIONEL BEALE, that such an official influences unfavourably the position or action of the visiting staff. It appears to us that the position of the latter must be very much strengthened, if, indeed, it require fortuitous aid, by the presence and authority of a professional resident, and may cite Guy's and St. Thomas's Hospitals as successful examples of the system. It must be remembered, too, that the resident is wholly and absolutely, for hospital purposes, an administrative and not a consulting or prescribing officer; and that, if the diurnal duty in the institution is properly performed, he could not, and as a matter of fact does not, come into any sort of collision with the house-physicians, house-surgeons, or clinical assistants. It is the province of an officer such as we should wish to see in all large hospitals to confer with the Committee of Management, the visiting physicians and surgeons, the house-physicians and house-surgeons, the nursing staff, and the secretary—to be *en rapport* with each and all, and, by acting as mediator in one case and as dictator in another, to prevent rather than cure, and so avoid the kind of unhappy disputation that has so much injured the prestige and reputation of King's College Hospital. We know, of course, that the right man must be found for the right place, but this, as we take it, is by no means difficult. As finance forms an element in the question, it may as well be stated that a permanent resident medical officer would cost the hospital about £400 a year.

WE recently alluded briefly to the important subject of Cremation, and now recur to it mainly for the purpose of setting before our readers the arguments enunciated on the question by Sir HENRY THOMPSON in articles that have been published elsewhere. After recapitulating the three modes by which our dead may be disposed of—viz., by burial in the earth, or in the sea, or by burning,—he proceeds to show at length how the first method is full of danger to the living, wasteful from a chemical point of view, and costly. It is hardly necessary to occupy space here in substantiating the first proposition. We all know that the animal must, as the author observes, be resolved into carbonic acid, water, and ammonia, and certain animal constituents more or less oxidised; that the process is slow, disagreeable, and often dangerous; that the products find their way into the air that we breathe and the water that we drink, to the manifest and grave deterioration of both. In illustration of the second proposition, Sir HENRY THOMPSON calculates the amount of ashes and bone-earth belonging to and buried with the dead of the metropolis and asserts it to be about 206,828 lb. "The amount of other solid matters resolvable by burning into the gaseous food of plants, but rendered unavailable by burial—for, say,

fifty or a hundred years or more—is about 5,584,000 lb." He proceeds to record that, in consequence of waste produced by the mode of burial as at present practised, we are obliged for agricultural purposes, and "to replace this ceaseless waste of commodity most precious to organic life," to import bones into this country that in 1872, according to the official abstract for that year, were worth £753,185 sterling. The third proposition is enunciated by calculating the cost of funerals as arranged in the present day, and it appears that, including those items of expense necessary only in the case of interment in a grave, a mean cost of £10 per head may be accepted as a fair estimate; which indicates that the burying of the dead for the metropolis costs annually about £800,000. Thus much for the present process. The burial of our dead in the sea has, under certain circumstances, advantages, and, as PARKES remarks, specially in time of war. The plan, however, is by no means universally available, and notably in inland towns; and it is enough to remind our readers that bodies so exposed are speedily devoured by the inhabitants of the deep, and that, as these creatures come to us in the form of food, the results, though superlatively economic, may not be always satisfactory.

In discussing the advantages of burning the dead as compared with the two former methods, the author claims for the practice sanitary and economic advantages, and shows, as we think sufficiently, that in the substitution of cremation for burial "the former is equally susceptible with the latter of association with religious funereal rites." The results of certain experiments made by Professor BRUNETTI, of Padua, showed that the entire process of incineration of an adult human body occupied about three hours and a half; the resulting ashes and bone-earth weighed about 3¼ lb. avoirdupois, and the quantity of wood used in the process was about 150 lb. The result of experiments conducted by the author himself, in the presence of Dr. BUCHANAN and others, shows that the process can be much more quickly accomplished. By the aid of a powerful reverberating furnace a small and emaciated body of 47 lb. weight was consumed in twenty-five minutes, and another of 140 lb. weight in fifty minutes; the products of the former weighing 1¼ lb., and of the latter about 4 lb. Dr. WILLIAM SIEMENS has invented a furnace in which the author burnt a body weighing 227 lb. in fifty-five minutes, the ashes weighing about 5 lb. The body is placed in a cylindrical vessel about seven feet long by five or six feet in diameter, the interior of which has been already heated to about 2000° Fahr. No foreign dust can be introduced, as there is no solid combustible near it, so that the product can be nothing more than the ashes of the body. "The gases given off pass through a highly heated chamber, among thousands of interstices made by intersecting fire-bricks laid through the entire chamber lattice-fashion, in order to minutely divide and delay the current and expose it to an immense area of heated surface. By this means they are rapidly oxidised, and not a particle of smoke issues by the chimney."

In giving the drift of Sir HENRY THOMPSON'S pamphlet, we may at once declare our entire and hearty adhesion to the principles and practice that he is striving to introduce into this country. Custom and sentiment will prove formidable opponents to this reform; but all reforms meet with keen opposition, notably those connected in any way with public health. If this question, however, be viewed in a purely sanitary aspect, we are constrained to believe that the arguments in favour of cremation are almost irresistible, and that those who work at preventive medicine should add it to their code of subjects, and urge it continuously on the attention of the public.

AN influential deputation from the British Medical Association waited upon Mr. GATHORNE HARDY, at the War Office, on Tuesday, the 5th inst., for the purpose of laying before him certain proposals that had been adopted by the Association in regard to the discontent so generally felt by medical officers at the present condition of their service. Sir WILLIAM FERGUSSON, the President of the Association, introduced the deputation to the War Minister, to whom the objects of the deputation and the grievances of the medical officers were detailed by the chairman of the Parliamentary Committee and other members of the Association. Mr. HARDY, after remarking on the financial considerations involved in the question of retirement, expressed himself as anxious that the medical officers of the army should receive the consideration their education and position demanded, and promised that the whole subject should have his serious attention. It is indisputable that the Army Medical Warrant of the late Government had given rise to great dissatisfaction, which had not been removed by Lord CARDWELL'S subsequent concessions. In promulgating a new Warrant which was to radically alter the organisation of the Medical Service, it was before all things necessary to respect existing and recognised rights. The legislation for the Medical Service was in harmony with the conduct of the late Government in other directions, and medical officers recognised with indignation that no rights—not even those guaranteed by Royal Warrant—were secure. We have always held that the War Minister was not justified in depriving medical officers of forage; that the cancelling of a Royal Warrant by a War-office circular was an altogether new and objectionable proceeding; and that the concession subsequently made in this respect, for the benefit of one section of medical officers to the exclusion of others, was indefensible. We are surprised that the deputation did not press this subject of forage more strongly. With regard to the existing system of retirement, the fact that the principal and most lucrative medical appointment in India has been twice held by the same officer has been cited by medical officers as an evidence that some change is required. If a stream of promotion is to be steadily maintained, it can only be effected by a movement in the front rank, and it is for the Government to devise a plan for accomplishing this which shall be fair to the medical officers and the service; for we hold that what is best for the service is best for the medical officers themselves. And this leads us to remark that everything medical should belong to the doctors of our army, who should undoubtedly, in our opinion, be left to manage their hospitals themselves, as they now do most efficiently in the Naval Service. What earthly good can be fulfilled by the presence of a military

commandant in a hospital? And what possible object could there have been in sending a commandant and an adjutant to the Gold Coast on board a hospital ship intended solely and entirely for the reception of sick soldiers? If the Army Hospital Corps is at the disposal and under the control of the Medical Service, as it surely is intended to be, we do not see any necessity for officering it by medical men who are wanted for other and different work.

Medical Annotations.

"Ne quid nimis."

"PUNIC FAITH."

IN calling attention, a fortnight since, to the exceptional position in which Dr. W. S. Playfair has been placed in reference to the disputes about the King's College Hospital nursing, we had no idea of attributing to anyone the deliberate intention of striking a foul blow. Probably hastiness on the one side and timidity on the other led Sir W. Fergusson and the editor of the *British Medical Journal* into the commission of errors the serious character of which they cannot fail to see on reflection. The editor represents that he divulged the name of the author of the obnoxious article to Sir William Fergusson as a profound presidential secret; while Sir William, in perfect good faith, received it as an unreserved communication. For the rest, the editor has recourse to a very stale device for withdrawing attention from the real question at issue by an attack on this journal and the insertion of a communication from a correspondent relative to some matter which must have occurred many years ago, among parties who are all now dead, and of which the present editor and staff of this journal know nothing whatever, and which, above all, is entirely foreign to the present question.

All this would be of comparatively little moment, however, supposing, as we fairly might, that the general feeling of the profession would be so strongly expressed as to render any repetition of similar conduct improbable. But considering that the general principle at stake—the inviolability of confidence between editors and their staffs—is one upon which the whole system of journalism is based, and without which it could not exist, the least that we could expect from a leader of the profession like Sir W. Fergusson was a frank acknowledgment that he never ought to have been told the name of the writer of the article in the *Journal*, and that when he had learned it, through an indiscretion of the editor, it was a further indiscretion on his own part to repeat the story elsewhere. Had Sir W. Fergusson adopted this tone no one would have been inclined to deal very harshly with an error which had been committed thoughtlessly, in the heat of partisan feeling. We regret to find that Sir William Fergusson adopts a different course, and expressly justifies his action. He assumes that information concerning the authorship of an article in the *Journal*, obtained by him from the editor, was his own personal property, to be dealt with as he pleased; an assumption which we do not hesitate to describe as untenable. It does not matter whether an injunction to secrecy were given or not; for no one should know better than Sir William Fergusson that the editor ought to have kept silence, and that the very last person who should have repeated his indiscretion was the president of the British Medical Association, his superior officer. But when we consider to whom it was that Sir W. Fergusson actually revealed the secret, our amazement at his self-justification is greatly increased. He carried his information to the very person who held himself aggrieved by Dr. Playfair's article; thus putting into his hands the means of legal revenge on Dr. Playfair for a criticism which, according to universal journalistic custom, should have been considered as emanating from the editor of the journal in which it appeared. And when taxed with the offence, Sir W. Fergusson expresses his belief "that, under certain circumstances, it may be best to expose the source of coloured reports which implicate professional standing, and involve the life-means of those referred to." We feel, and THE LANCET has often expressed, a high respect for Sir W. Fergusson's abilities and his splendid services to surgical science, but we cannot admit that he is entitled to place himself above the ordinary laws which rule society—and especially professional society—in regard to such matters as the subject of our comments. On this point it will be generally felt that a decided protest was required, since all sense of security and confidence would be at an end if Sir W. Fergusson's precedent were likely to be followed by others.

Altogether this has been a very disagreeable business, which we would very gladly have left alone. It has cast a fresh shade upon the controversy at King's College which was already darkened by a sufficient number of unpleasant incidents, and it has obliged us to express our opinion in a manner which is fortunately as unusual as it is painful. We think it right to add, in taking leave of the subject, that it was forced upon our notice by the determination of the Secretary of King's College Hospital to have his share of the correspondence published in our columns.

THE SANITARY CONDITION OF ROTTERDAM.

PORT sanitary work is now so important a feature in the proceedings taken under the Public Health Act that it is well to pass briefly in review the sanitary condition of those continental ports with which this country has most frequent communication, and among them Rotterdam holds a very foremost place. The geographical configuration of Holland need not be particularised here, and it must be well known to most of our readers that both Rotterdam and Amsterdam, with their network of canals and substrata of piles, are, according to modern ideas of hygiene, placed under conditions by no means favourable to the prevention of disease and the maintenance of health. The trade and commerce of Rotterdam are now of a very extensive character. Its chief business with this country is carried on by way of the Thames, the Humber, and the Wear. As regards London, there are no less than ten regular arrivals each week, besides a large number of other cargo steamers, many of which bring small contingents of emigrants *en route* for Australia and New Zealand. It is thus patent that as Rotterdam is one of the two chief outlets for trade and emigration from Germany as well as Holland, epidemic disease is more likely to be imported into this country thence than from most other places on the basin of the Baltic. And the insanitary conditions that at present obtain at Rotterdam unquestionably intensify this opinion. All drinking-water used in the city comes directly from the Maas, and all the sewage of the city flows directly into the same river. Most if not all the steamers trading between England and Rotterdam always, as a rule, filled their tanks at the latter port, but the injurious results of this proceeding have been so forcibly pointed out to the respective owners and agents by the sanitary authorities of the Port of London, that, as we believe, the practice is now discontinued as regards vessels frequenting the Thames. The authorities at Rotterdam are, however, fully alive to the peculiar dangers and difficulties of their present position.

Waterworks are in course of construction at some little distance above the city, close to the river's bank, and it is proposed to take the water from the Maas below its confluence with the Rhine, and to subject it to some process of filtration before delivery to the inhabitants. What the nature of the process will be is not yet determined, but, as a temporary expedient, a small company has been formed, under the presidency of Dr. Th. Van Voesbrugh, and active superintendence of Mr. A. S. Van Reesema, by whom the Maas water is filtered, treated with perchloride of iron, sold to the rich, and given to the poor. But, as we take it, a very small proportion of the drinking-water consumed at Rotterdam is so distributed. The condition of the canals in the old quarters of the city is very bad indeed, for the water is stagnant, and forms a receptacle for the usual proportion of dead dogs and other abominations, and they are used normally as washing-tubs by the major part of the inhabitants. We are somewhat surprised to find that no practical effort has been made to obtain a water-supply from Haarlem. This town is only thirty-six miles distant from Rotterdam, and is supplied with excellent water from springs that arise out of a gravelly and sandy soil. Amsterdam is also supplied from the same source. We find from an official return published in the *Rotterdam Courant* of the 24th April, that whereas Rotterdam with a population of 125,843 inhabitants registers a mortality of 34 per 1000, Haarlem, with a population of 32,759 persons, had a mortality of 24, and Amsterdam, with 281,945 inhabitants, a mortality of 29 per 1000. These statistics need no comment. The authorities at Rotterdam are, however, most commendably anxious to give all possible publicity as to the rise and progress of epidemic disease in their city. All physicians are enjoined, under a heavy penalty, to report to the burgomaster immediately the existence of any case of cholera, and an advertisement, giving details of this information, is at once posted in the daily journals. When an epidemic actually exists, official daily returns of sickness and mortality are also published, and at all times, whenever disease of a contagious or infectious kind exists in any house in the township, a distinguishing card is placed in the central window of that house, so that its inhabitants are, to all intents and purposes, quarantined by authority. It is very satisfactory to know that, despite the unfavourable sanitary conditions of Rotterdam, the Dutch are far more frank in such matters than our Gallic neighbours, and hence will doubtless forewarn our port sanitary authorities without delay, so that the latter may be properly forearmed in the maintenance of hygienic rules that shall be effectually preventive, and, at the same time, not detrimental to commerce.

THE CALCUTTA MEDICAL COLLEGE HOSPITAL.

WE recently directed the attention of our readers in connexion with the comparative results of amputation in large and small hospitals in Bengal, to the Medical College Hospital at Calcutta. We have since had an opportunity of perusing a copy of the Report of the Committee of that institution to the Secretary to the Government of Bengal in 1867—and a very instructive document it is. Previous to 1852–53, the building now used as a museum had been the hospital, but the accommodation was so inadequate and its other defects were considered so objectionable that it was determined to erect another hospital better suited to the purpose; and the present establishment was completed and opened for the reception of patients in 1852–53. This structure externally presents a very imposing appearance, affording little indication of its extremely unsuitable character for the object in view. It faces north and south, and consists of a basement floor and two storeys, with a entral staircase. The building was calculated to hold 350 patients under ordinary circumstances, but capable of accommodating 500 in cases of emergency and epidemic outbreaks of disease. It was proposed that two-thirds of the patients should be males and one-third females, and that of the 350, 100 should be Europeans and 250 natives. No better illustration could be found than the description of this hospital of the necessity for the vast change which has taken place within the last few years in our conceptions of the sanitary requirements of a hospital. It is utterly opposed to all our present ideas of what hospital construction and arrangement should be. Notwithstanding that the building occupied previous to 1852 was small and ill-adapted to its purposes, the mortality was under 10 per cent. upon the whole number under treatment. The expectations of those who confidently anticipated more favourable results from the present building were very far indeed from being fulfilled. The average death-rate from 1853 to 1865 among the European patients in the new hospital has been 9 69, and among natives no less than 23 01 per cent., instead of 8 96 per cent., which was the ratio in the old building. In fact, the existing hospital is radically bad as regards site, construction, ventilation, arrangement of wards and ward accessories, besides being defective in many requirements absolutely essential to a moderately good hospital in a temperate climate, to say nothing of a tropical one. Notwithstanding the various expedients adopted from time to time to purify its atmosphere by diminishing the number of inmates, the amount of osteo-myelitis, pyæmia, surgical fever, and hospital gangrene was very large, and in 1866 the medical and surgical staff framed a Minute setting forth the glaring defects of the hospital. The appendix to the Report of the Committee embodies the evidence given by Dr. J. Ewart and Professors Fayrer and Partridge on this subject, and it must be a source of extreme satisfaction to these gentlemen to find that the authorities have at last determined on adopting that course of action which the medical staff—and no one more than Dr. Fayrer—so emphatically declared to be necessary.

THE APOTHECARIES OF IRELAND AND THE PHARMACY BILL.

WE lately remarked on the most inconvenient dearth of chemists and druggists in Ireland, and attributed it to the fact that the Apothecaries' Company exacted of those who carry on the business of chemists an education only proper to those who mean to practise medicine. To remedy this inconvenience the College of Physicians in Ireland, reasonably, we think, propose simply the extension of the Phamacy Act to Ireland. Against such a contemptuous treatment of its vested rights the Apothecaries' Company is up in arms. It alleges that such legislation as that called for by the College would "subvert the rightful control over pharmacy which is exercised by the Company, and that it would introduce into Ireland many persons ignorant of the nature of poisons and the effect of drugs"—i.e., the ignorant portion of the English druggists who were in business before the passing of the Pharmacy Acts. This last argument may suffice to show the straits to which the Company is reduced to defend what is a perfectly indefensible state of the law. The Governor and Company of the Apothecaries say that the dearth of chemists is the natural result of the Medical Charities Act, which created the dispensary system of Ireland. There may be some truth in this view, but the apothecaries show themselves so bent on retaining their "vested interests" that we should like to hear the opinion of others on this point. Finally, the Governor and Company say they have a Pharmacy Bill of their own which does not disturb vested rights. We presume this is a Bill to enable the Company to license a second class of licentiates.

It is not certain that their own licentiates would agree to this, and it is obvious that the Company must elect to be a body to license either medical men or chemists, not both. If the Company is wise, it will desist from its opposition to the suggestion of the College of Physicians. But wisdom is a quality not always given to bodies which have outlived their usefulness, and which the gods do not design to be perpetuated.

THE UNIVERSITY OF LONDON.

AT a meeting of Convocation, to be held on Tuesday, the 12th inst., at 5 P.M., at the University Buildings, several important motions, which affect more or less directly the profession, will be brought forward. It is desirable, therefore, that the graduates should attend in great numbers. The first thing in the order of business will be the adjourned debate on the motion made at the last meeting, "That in the opinion of Convocation it is desirable that women should be permitted to take degrees in the University of London." Further, the adoption of the following resolution, recommended in paragraph 26 of the Report of the Annual Committee, will be moved:—

"That, while cordially concurring in the object of the Medical Acts Amendment (University of London) Act, Convocation requests the chairman to express to the Senate their hope that for the future no similar action may be taken without the previous consent of Convocation."

The reason of this is thus stated:—

"The object of the Medical Act Amendment (University of London) Act of the Vice-Chancellor is one that has met with the cordial concurrence of Convocation, but your committee feel bound to point out that by obtaining their extended powers by Act of Parliament instead of by supplemental charter, the Senate have for this occasion deprived Convocation of perhaps its most important and valuable privilege. No new charter can be obtained without the formal and expressed consent of Convocation. No such consent is, of course, necessary for any Act of Parliament. Your committee earnestly trust, therefore, that this proceeding will not be made a precedent, and that upon every future occasion when the Senate may desire to obtain any modification in their constitutional powers, they will take the opinion of Convocation upon the question before making any application either to the Crown or to Parliament."

But more important than this, perhaps, will be the following resolution concerning the practice of vivisection at the Brown Institution:—

"That this House earnestly requests the Senate not to allow painful experiments on living animals, when not intended to be medical or curative, to be in any case carried on in the physiological laboratory of the Brown Institution,—(1) because such experiments are so far from being sanctioned by the late Mr. Brown's will, that he distinctly directed that 'kindness to the animals committed to the charge' of the superintendent should be 'a general principle of the Brown Institution;' (2) because such experiments, wherever their subjects are 'domestic animals,' are, in all probability, in contravention of the 2nd section of the 12th and 13th Victoria, cap. 92; (3) because the connexion of this University with experiments of the vivisectional kind would be detrimental to its honourable position, and an outrage on the principles of a large class of its graduates."

ST. GEORGE'S HOSPITAL.

THE authorities of St. George's Hospital have doubtless been deeply perplexed to decide at what particular season of the year they should open up the old drains under their hospital, and lay down new ones. Many things were to be considered, but more especially was the difficult question of deciding what should be done with the Medical School and the students attached thereto. To undertake the alterations during session would seriously involve the school, and would prevent the reception of any new students for at least a year, while the old students would have to be transferred to some other metropolitan school, or sent down to the country hospital connected with St. George's. This was no doubt a strong point in favour of taking advantage of the long vacation; but it should not, we think, have weighed unfavourably against the public and the public health. It is well that charity should begin at home, but it is not well that it should stop there, and in saving themselves the authorities at St. George's should not expose others to danger. The particular period of the year which has been selected for exposing the old and rotten drains, and for stirring up the foul gases and poisons with which the foundations of the hospital are impregnated, includes the three hottest months of the year, and exactly the period when the immediate vicinity is crowded with those who have come to town specially to enjoy the London season. The hospital authorities ought, we think, to have chosen a time for their pythogenic operations when there was the least chance of doing harm—namely, in the cold months, and when but few persons are living in the locality. At any rate, if they persist they are morally bound to exercise every precaution to render their operations as innocuous to the public as possible.

THE SURGICAL AID SOCIETY.

A CORRESPONDENCE between the Rev. Septimus Hansard, Rector of Bethnal-green, Sir Charles Trevelyan, and Henry Jeula, Esq., a member of the Committee of the Surgical Aid Society, has been forwarded to us. It is founded on the case of a girl who, as Mr. Hansard forcibly puts it, "had to walk with one leg and a half to *twelve* different subscribers before she could get a sufficient number of 'letters' to cover the expense of an instrument which the Society then gave her for her poor leg." Sir Charles Trevelyan and Mr. Hansard use some strong expressions in characterising a charity so kind and yet so cruel. We do not defend all Sir Charles's expressions—he injures his cause by them,—but we entirely agree with him in lamenting that a Society which designs to help the lame should attach such painful conditions to the help it gives. Few cases strike us as so worthy of help as those of deformity and lameness needing mechanical and costly supports. The various orthopædic charities are very useless as far as helping the poor to get these supports goes. It follows that if the Surgical Aid Society would do its work well, pick out the worst cases by the help of its own surgeons, and then give them what they want, either absolutely or on the provident principle, it would be one of the most meritorious societies in London; but while it requires lame people to canvass for twelve letters, it is open to the charge of thinking more of the claims of the subscribers than of the lame and the halt, and of being cruel when it really means to be kind.

FRENCH MEDICAL BENEVOLENT FUND.

OUR French brethren are fairly emulating us as to institutions intended to succour medical men in straitened circumstances. Although their institutions do not as yet come up to our Epsom College and our two medical benevolent societies, a very praiseworthy work has just been accomplished. A few days ago the Association of the Medical Men of France, which has now been existing fifteen or sixteen years, held a general meeting at Paris, when it was announced that a fund of £16,000 had been accumulated by donations and grants from the branch societies in the provinces, as also gifts from generous donors, which fund is exclusively meant to grant life annuities to deserving medical men requiring aid. The fund is quite independent of the property of the Society, and it was thought when

first projected that fifteen years must elapse before the £16,000 were reached and the annuities could commence. Eleven years, however, have proved sufficient, and the Association, making a choice out of twenty-five applications, has granted fourteen annuities, of small amount it is true, but in keeping with prudence: Two of £25 a year, five of £16, and seven of £12. A peculiar feature is that the annuitants do not depend on any eventualities which may affect the Association, as the capital for the annuities is placed under Government trust, and cannot be alienated. The return to the annuity fund takes place only at the annuitant's death.

The meetings of the Association lasted two days, many delegates from the country being present. The usual dinner took place at the Grand Hotel on April 12th, and the whole affair was extremely satisfactory.

Our own Epsom College owes its existence to one man, the late Mr. Propert. The French Association just alluded to was started, and for the last fifteen years has been supported, with uncommon talent and skill by its general secretary, M. Amedée Latour, the well-known and highly-respected editor of *L'Union Médicale*.

UNIVERSITY COLLEGE, LONDON.

AT the distribution of prizes in the Medical Department of University College on Wednesday last, Mr. Quain, F.R.S., who presided, took occasion to point out that examinations, whether for prizes or not, were a valuable part of systematic education, and that examinations so employed were to be distinguished from the competitive examinations, against which a public outcry had arisen, because young men were educated simply to pass these tests rather than with a view of expanding their minds. Referring to the retirement of Professor Sharpey from the Chair of Physiology after thirty-seven years' occupancy of it, which had been mentioned amid expressions of regret in the report of the Dean of the Faculty, Mr. Quain traced the progress in the teaching of that important subject which had been made of late years, and mentioned that Dr. Sharpey was the first to lecture upon physiology separately from anatomy. He expressed his gratification at the recognition which Dr. Sharpey's services had recently obtained at the hands of Government in the form of a pension, and also his appreciation of the recent liberality of Mr. Jodrell in giving an endowment to the Chair of Physiology in University College, by which the services of an accomplished physiologist, able and willing to devote his whole time to physiological research, would be secured. Mr. Quain concluded by congratulating the successful competitors for the various prizes, and expressed his gratification, as a former professor of the College, in presiding on this occasion.

THE HOSPITAL FOR WOMEN, SOHO-SQUARE.

THE rulers of the Hospital for Women deserve at least this praise—that they appear to be open to conviction, for the resolutions which were passed at the annual meeting of the subscribers, and which will be found in another column, exactly reverse the former positions of the committee and medical staff. The medical officers who have hitherto been subject to the caprice of the committee, are for the future to be permanent officials, with the sole restriction of resigning at the age of sixty-five; and the committee is to be subject to annual re-election by the governors at large, by whom also the medical staff is to be appointed. So far so good, and we congratulate ourselves on having done something towards bringing about this desirable result. But the question naturally arises, Are these alterations which have been brought about by public pressure permanent? or will former practices recur as soon as attention is diverted from them? At all events, the charity has lost the services of several eminent medical men, and it would be well for any future candidates for office to consider the stability of the laws by which they will be governed.

The statement put forth in answer to that of the retiring members of the medical staff appears to us an eminently feeble production, dealing as it does altogether in the *tu quoque* argument. The committee do not attempt to defend their treatment of the medical staff, but simply say that the medical staff are to blame for not reporting the bad condition of the nursing prior to November last. We have no means of knowing how it was that the previous complaints of the staff never reached the committee's ears, but we do know that when the matter was at last brought before the committee, they curtly refused an inquiry in conjunction with the staff, whom they informed, in so many words, that they were exceeding their functions.

THE IRISH POOR-LAW MEDICAL ASSOCIATION.

THE members of the Armagh Branch of this Association held a meeting lately at which it was unanimously resolved that it was desirable that a clause should be inserted in the new Sanitary Act empowering Government to pay the whole of the salaries of the Poor-law medical officers of Ireland, instead of only the half, as at present; that to compel dispensary doctors to examine dangerous lunatics and give certificates without fee is an act of injustice to the general medical practitioners—we should add, to the dispensary doctor. It was also resolved that the local officers of health should be the dispensary medical officers, each for his own district; and that the authorities should be compelled to employ the dispensary medical officers, and no other, for sanitary posts. In the main we approve of these resolutions. To have the necessary independence, the Poor-law medical officers should be paid by Government. While we hold that the Poor-law medical officers should be the officers of health, we think it would be necessary to have a staff of district medical inspectors to supervise and advise local health officers.

POISONING BY THE GIANT PUFF-BALL.

A PARAGRAPH in the *Pall Mall Gazette* gives an account of the case of Mr. Sadler, who was to have lectured a few days ago before the Pharmaceutical Society on edible and poisonous fungi. Whilst preparing his lecture he accidentally swallowed a quantity of the spores of a large species of puff-ball (Lycoperdon giganteum), and within a space of an hour and a half was seized with severe illness, accompanied by distressing pains. The violent symptoms could not be subdued until nine days after the first attack, during which time, according to the opinion of the eminent physicians who have been attending him, the continued irritation was kept up by the fungus spores. Mr. Sadler, although fortunately now in a fair way of recovery, remains confined to his bed, and has thus paid dearly for his scientific researches.

The occurrence does not to our mind lead to the inference drawn by the writer of the notice—to wit, that the wisest course would be for all persons who have sufficient strength of mind to deny themselves luxuries, to abstain from eating fungi altogether. Now, because green gooseberries make a child ill there is no reason why it should not eat a few ripe ones. It so happens that the young Lycoperdon giganteum is one of the best and most wholesome of our mushrooms, and we can strongly recommend it to our readers. It is only when the contents are dry and pulverulent that it is unfit for food.

THE EGHAM COTTAGE HOSPITAL.

THE treasurer of the above little institution for the medical relief of persons belonging to the labouring class has published a report of its administration for the past twelve months. The expenditure of the hospital for the year amounted to nearly £200, to meet which sum there was in subscriptions and donations only £53 17s. 6d.! The deficiency was generously made up by the treasurer out of his own pocket;—indeed, it is to this gentleman's liberality that what little vitality the hospital possesses is due. When we see cottage hospitals springing up and obtaining ample support in comparatively poor districts, it appears incredible that a similar institution established in such a wealthy neighbourhood should have its claims persistently ignored by the residents. We would fain believe that its utility and necessities are not brought into sufficient prominence before the notice of the inhabitants. We would urge on all persons of means living in the locality the duty devolving on them of assisting with monetary aid the Egham Cottage Hospital, and so enlarge its sphere of usefulness. It is to be hoped that the current year will show a material increase of donations and subscriptions.

QUACKERY IN CRETE.

THAT the Cretans are always liars we know on the best authority; that they will continue to be slow bellies is not so certain. Drastic therapeutics, following in the wake of imported empirics, will soon put their digestive apparatus to a crucial test. Certificated medical men are so scarce in the island, while their fees are so prohibitory, that the Government is absolutely driven to invite the services of the quack. Only fifteen of the former are available among a population of 300,000. These, moreover, reside, without exception, in the towns, where the peasantry when ill have to call on them. £1 is their fee for a visit to the nearest village; while £4, £5, £6, and even £10 are charged for visits further inland. The country quack used to attend his rustic *clientèle* for from twenty to thirty piastres, but he has for some time been prohibited from practice as an irregular practitioner. The Government, however, at the instance of 7000 Cretans, has reinstated him; while there is an ample opening for our friend the "doctor in absentia," whether he hail from the right bank of the Rhine, from Jersey, or from Philadelphia.

OVER-TRAINING.

THE result of the over-teaching of children in the public schools of Massachusetts is declared by a writer in an American paper to be most serious, more than two-fifths dying before they reach twelve years of age. The mortality from diseases of the brain and the nervous system is 11 per cent., whereas, in Nova Scotia, where no child is, it is stated, sent to school before it is seven years old, and then only for six hours a day, the mortality from these causes is only 8 per cent. The only remark we have to make on this is, that even six hours is somewhat too much for a child of seven years old. Four hours of varied work demanding attention would, we think, be ample for any child, and the mortality might then drop to 2 or 3 per cent.

"FELIX OPPORTUNITATE MORTIS."

SMALL-POX rages at the seat of war in Spain, and has already numbered as a victim one of the most accomplished and indefatigable officers of the Red Cross. At Castro Urdiales a funeral procession might have been seen passing through the streets on the 28th ult. It was headed by a large silver crucifix with lighted candles borne on each side, followed by the shaven monks, each of whom carried a taper. Next came the coffin containing the surgeon, and covered by the badge of the Red Cross on a white ground. The pall was held by the professional brethren of the deceased, followed by the municipality and leading citizens; while the Sisters of Charity, whose care of the wounded has been more than exemplary, brought up the rear. The poor young surgeon had fallen at his post through sheer hard work, prosecuted amid conditions so insanitary that, what with the resulting typhoid and small-pox, the last Carlist war will be remembered as among the most disastrous that has ever visited Spain.

NEW MODE OF PREPARING INSECTS FOR ENTOMOLOGICAL PURPOSES.

M. ANZOUX states, for the benefit of those who are engaged in collecting insects, that he has discovered a new method of rapidly killing and preserving for a considerable period without harm specimens collected in expeditions. He recommends a few drops of bitter almonds to be placed in some sawdust, which should itself be enclosed in a flask hermetically sealed. M. ANZOUX has received from the Isle of Ceylon flasks thus prepared containing insects still so flexible as to permit of their being prepared and mounted, though they had been collected at the Pointe-de-Galles some months previously.

BY order of Colonel Henderson, the metropolis has been placarded with bills ordering the police to seize all stray dogs, whether muzzled or unmuzzled, not immediately under the control of some person. Animals suspected of being rabid, or of having been bitten by any dog in a rabid state, will be immediately destroyed. This order comes not a day too soon. It will, we hope, serve to allay the feeling of uneasiness that was gaining ground in London in consequence of the great number of deaths from hydrophobia recorded within the last few months. Similar instructions have, we believe, been issued to the police of our large provincial towns. In connexion with this subject, it is surprising to note the persistent attempts made, either from ignorance or self-interest, through the medium of the newspapers, to foist on the public vaunted remedies for hydrophobia. We need scarcely say that such preparations as we have alluded to are utterly worthless, and unworthy of serious consideration.

THE Select Committee appointed by the House of Commons to remedy the failings of the Adulteration Act met on Monday. It was stated that 39 analysts had been appointed in the metropolis, some of whom were paid by fees and some by salary. In the English counties there were 34 analysts. Of 171 boroughs coming within the provisions of the Act, in 26 only had the Local Government Board created analysts. A gentleman connected with the tea trade, who was examined, informed the Committee that it was as necessary to doctor tea to render it palatable to consumers as it was to fortify wines with brandy.

ON Mayday the University of Glasgow closed its winter session with the capping of the graduates, the distribution of prizes, and the conferring of honorary degrees. Principal Caird delivered the address, and after referring to the retirement of Professor Anderson from the Chemical chair, and to the munificent donations made to the University, he congratulated his audience on the fact that their present Lord Rector was the Premier, his immediate predecessor the Foreign Minister, and their Member of Parliament the official representative of Scotland in her Majesty's Government.

THE following members of the profession were presented at the late Levée:—Surgeon-General T. G. Balfour, M.D., F.R.S., Army Medical Department; Surgeon-Major R. Byramjee, Bombay Army; Staff-Surgeon Thomas Colan, M.D., R.N.; Surgeon-Major E. J. Franklyn, M.D., Army Medical Department; Staff-Surg. J. W. Fisher, M.D., R.N.; Staff-Surgeon Charles J. Fennell, R.N.; Surgeon-Major A. A. Gore, M.D., Army Medical Department; Mr. Prescott Hewett; Deputy Inspector-General Ahmuty Irwin, C.B., R.N.; Surgeon J. W. Jones, Army Medical Department; Surgeon George R. Lawrenson, R.N.; Surgeon E. O'Sullivan, Army Medical Department; Staff-Surgeon James F. Parr, R.N.; Dr. Stainer; Surgeon-Major F. A. Turton, Army Medical Department; Dr. Lyttelton Forbes Winslow; Surgeon-Major J. Berry White, Bengal Army.

IN the House of Commons on Friday (this day) Mr. Kay-Shuttleworth will call the attention of the House to the urgent importance of the problems connected with the present condition and future improvement of the dwellings of working people in London, and to the memorials on this subject lately presented to Her Majesty's Government by the Royal College of Physicians, and by the Council and Dwellings Committee of the Charity Organisation Society; and will move, "That, in the opinion of the House, a necessity exists for some measure that will provide for the improvement of the poorest classes of dwellings in London, and that this question demands the early attention of Government."

AT the first meeting of the Rural Sanitary Board for the Darlington Union for the new year, the chairman elected was J. W. Eastwood, M.D., M.R.C.P.L., of Dinsdale Park. In a few opening remarks Dr. Eastwood stated that he had always taken great interest in sanitary measures, and paid a just tribute to the efforts which had been made by the medical profession to produce a satisfactory Public Health Act. He regretted that some of the views of the profession had not been carried out, for had they been so, the present difficulties which surrounded the sanitary authority would not have existed. They would, however, endeavour to carry out the present Act as far as possible, and for the good of the public health.

AT an inquest held in St. George-in-the-East this week, on the body of a woman who died of uterine hæmorrhage during labour, a verdict of "Manslaughter" was returned against Waldemar Middleton, who had been in attendance on the woman, and who, according to the evidence, grossly neglected her. We have no reason to suppose this person to be a member of the profession. During the course of the proceedings, it was found that the accused had disappeared; the jury therefore appended to their verdict a rider to the effect that Government should offer a reward of £50 for his apprehension.

THE rate of mortality in London last week was 19 per 1000 annually. The deaths, 1256 in number, included 40 from measles, 16 from scarlet fever, 9 from diphtheria, 46 from whooping-cough, 21 from different forms of fever, 20 from diarrhœa, and 400 from diseases of the respiratory organs and phthisis. Of continental cities, Munich appears at present to be the most unhealthy, the death-rate being 40 per 1000.

THE Sanitary Commissioner of the Punjaub reports an unusually favourable state of the public health in the province, except in the town of Multan, where the mortality is still high. There was one death registered under the head of cholera. The deaths from small-pox amounted to 254.

DR. NEIL ARNOTT'S personal estate was sworn under £60,000, the acting executors being his widow and Dr. A. S. Taylor. He bequeaths £100, free of duty, to each of his executors; £3000 upon trust for each of the five children of his brother, Dr. James Arnott, and additional sums to them on the death of his wife; £15,000 as income for life to his wife, and the residue of his property absolutely, or an annuity of £500, at her option. To Dr. Taylor and Professor Alexander Bain, the other executor named in his will, he gives the copyright of his "Elements of Physics" and of all his published works, in the hope that they will revise and publish new editions at moderate prices, so as to reach the industrial classes.

CREMATION, as a method of disposing of human bodies, is gaining great favour in America, and appears to have been practically tested a short time back in Philadelphia, the operator being a doctor, and the subject his son. The former was so wedded to the system that he had a specially-constructed chimney built in his house, in order to facilitate the burning. When the iron coffin was opened, after the process of incineration, nothing remained but "about a quart of whitish-grey ashes." No unpleasant odour was at any time observed. The experiment, which is said to have been decidedly costly, was not in any way opposed by the authorities of the city.

AS a sign of the times, it is interesting to note that the Cambridge University Union adopted a motion by 101 votes to 42 in favour of introducing the system of cremation into this country. Our universities are, as a rule, unerring indices of intelligent public opinion.

IN order to prevent the importation of contagious or infectious diseases into the United States, a National Board of Health has been formed for the country, consisting of surgeon-generals of the army and navy and surgeons of marine hospitals and of the Treasury.

ALTHOUGH St. George's Hospital will be closed for the next three months, in order to carry out certain alterations in the building, the medical classes of the school will be continued as usual during that time.

AN important meeting of the Council of the College of Surgeons was held on Thursday last, to consider some details of the Conjoint Examination Scheme. We shall refer to its details next week.

WE would call the attention of our readers to an appeal in our advertisement columns on behalf of the family of the late Mr. Pitt Nind, of Torquay. The case is a most deserving one.

THE annual dinner of the West Kent Medico-Chirurgical Society will take place on Thursday, June 18th, at the Ship Hotel, Greenwich, at 6 for 6.30 P.M. precisely.

THE Islington Guardians propose in future to pay the medical officers of the workhouse and infirmary a fixed annual salary, in lieu of fees, for examining pauper lunatics.

THE May number of the *Atlantic Monthly* contains a beautiful elegiac poem, by James Russell Lowell, on the death of Agassiz.

WE regret to hear of the sudden death, on Wednesday last, of Mr. Tamplin, the well-known orthopædic surgeon.

WE are asked to state that Mr. John Foster has resigned the post of surgeon to the Cancer Hospital.

THE ROYAL ACADEMY.

IF the one hundred and sixth exhibition of the Royal Academy be compared with those of the last few years, it may be fairly ranked as decidedly above the average. It is true that it contains few striking pictures, and no lack of those of a common-place character, but the number of pictures of merit is greater than usual. A taste for art and the means of gratifying it become more widely diffused every year, and the number of artists keeps pace with the number of buyers of pictures; but we question whether the character and quality of the work are improving. One cannot have intensity, power, and finish, with rapidity of execution. People realise the shortness of life, and they desire to have their intellects and senses fed by a rapid succession and variety of subjects. The author or artist of to-day produces a number of works in the time that he would some years ago have given to the completion of one; and it is only given to men of very exceptional genius to be powerful and prolific too. The diffusion of wealth has tended somewhat to debase the public taste. Pictures are now-a-days bought by many who do not possess the necessary knowledge, taste, and discrimination to give them any sense of security in their own judgment, and the consequence is that artists of great reputation cannot paint fast enough, while those of ability and originality, but less known, are tempted to follow in the steps of success rather than to strike out new paths of their own. The poverty of original conception and signs of hurried execution observable in the works of our modern artists at the exhibitions of late years are to be regretted.

But it is time we made some observations on the present exhibition. We can only pretend to notice a very few pictures, and chiefly those likely to be of most interest to our readers. Passing over some of Mr. Hook's pictures, done in his usual style, we come upon *Un Chaudronnier*, by A. Legros—an unmistakably French picture, and one that will bear thoughtful observation. The portrait of the Rev. James Martineau, by Mr. G. F. Watts, strikes us as a fine rendering of a very intellectual face. Mr. Millais has of late been adopting a new style—that of landscape. Of Mr. Millais' extraordinary merits as an artist there is no need to speak; but we confess not to have shared in the rapturous terms with which his previous landscapes were received. Of his two landscapes in the present exhibition, "Scotch Firs" and "Winter Fuel," we certainly prefer the former, which is rough, real, and expressive of power and originality of execution. Mr. Frith's picture of "Pamela" is very beautifully painted. Mr. W. T. Roden has been most successful in his portrait of a man of great and subtle intellect—John Henry Newman; the likeness is executed with great vigour and fidelity. Mr. Alma-Tadema has been very successful in his large painting, "The Picture Gallery." Miss Thompson's "Calling the Roll after an Engagement—Crimea," is certainly a very clever and effective picture. The portrait of Mr. Samuel Hey, F.R.C.S., by Mr. Hodges, cannot fail to gratify his friends and fellow-practitioners by whom it is presented. The subscribers of the portrait of Sir William Fergusson, as well as the artist, are to be heartily congratulated, for Mr. Lehmann has been most successful. It is a large and every way striking painting, and the likeness is admirable; and Sir William's expression, fine figure, and bearing are lifelike, and most expressive of the character of the man. Mr. Watts's portrait of the late John Stuart Mill will recall the features of a man who made a deep imprint in the sands of his time—which some think is destined to be nearly effaced by the footprints of other and succeeding philosophers. Spite of the effective colouring, grouping, and truthful rendering of the scene, we do not think Mr. Frith has been so happy in his fine painting of "An episode in the great annual procession of our Lady of Boulogne" as in some of his previous works. "The North-West Passage," by Mr. Millais, is unquestionably a very fine painting—fine in conception and execution. We are always glad to welcome painters from the ranks of our own profession. Sir Henry Thompson has shown considerable artistic skill both in the drawing and brilliant colouring of his little picture, "Thé à la Russe." Sir Henry has succeeded in making an effective picture out of very simple materials. Our notice has already exceeded our limits, and we must consequently omit any notice of many pictures we had marked for observation.

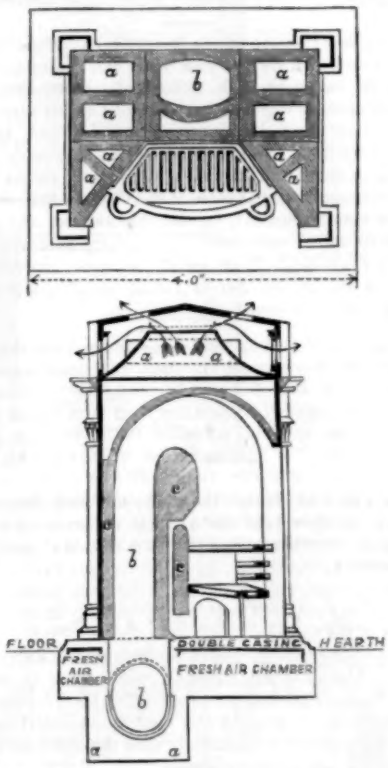
PRINCIPLES OF HOSPITAL CONSTRUCTION.

BY JOHN SUTHERLAND, M.D.,
Member of the Army Sanitary Commission, &c. &c.; and
CAPTAIN DOUGLAS GALTON, C.B., F.R.S.,
Director of Public Works and Buildings, &c. &c.

No. V.—WARD DETAILS (CONCLUDED).

Ventilation.—Ward ventilation in existing hopitals is carried out on two plans—the one artificial, the other natural. The first is used in a number of hospitals, especially abroad, where it is so arranged as to be combined with warming during winter. In this country it is usual to trust simply to open windows with some slight additions. It is proposed to state what these additions are, and, in doing so, to express an opinion that wards can be kept in a more healthy state by natural methods than by any artificial contrivances.

FIG. 3.



a a, Fresh-air flues. *b b*, Smoke flues. *c c*, Fire clay.

At all events, if any architect or hospital committee have an inclination towards adopting combined warming and ventilation, they ought to make careful inquiries beforehand into the results.

The essential principle of natural ventilation is the use

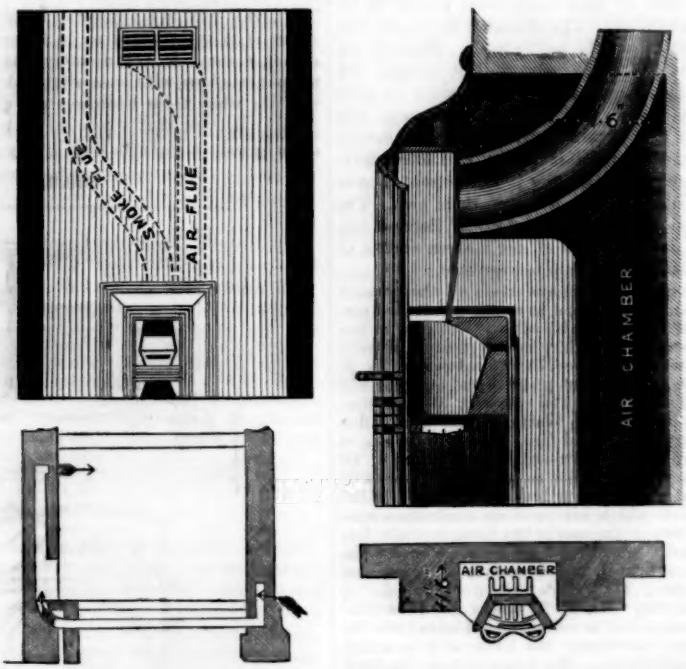
of open windows. The only drawback to this method is cold and variable air-temperature outside, when such prevails. After long and careful inquiry, it was decided, in military hospitals, to trust to open windows, but to make provision for a certain amount of ventilation independently of them; and, during cold weather, to combine with this the use of fresh outside air (*not ward air*), slightly warmed by passing over terra-cotta surfaces warmed by the fire-grates—an arrangement by which the influence of cold and variation of temperature may be avoided. The method of ventilation adopted is very simple. In the middle of each wall-space and close to the ceiling is inserted a Sherringham or other louvre ventilator, admitting a certain amount of fresh air, which is directed towards the ceiling by the louvre. An upcast foul-air shaft is generally carried up from each corner of the ward to above the roof, and there protected by louvres. In still weather these arrangements ensure a current through the ward; but when there is wind pressing on one side of the ward the air enters on that side and passes partly through the louvres on the opposite side and partly by the shafts. In either case the ward air undergoes a gradual, steady change, which can always be rendered of any required rapidity by pulling down a window or two at the top.

In applying this method of ventilation it is a *sine qud non* that each ward be ventilated by itself. Such an idea as to use a fresh-air inlet or a foul-air outlet for more wards than one ought never to enter the head of a hospital architect. Each ward should communicate with the outer air by itself, and for its own purposes alone.

Warming.—The best method of warming large wards is to place the fire-grates down the centre line of the ward. The smoke-flue should not be led through successive floors, as has been done in the new St. Thomas's Hospital: the arrangement is unnecessary, and it is also unsightly, while there is a loss of useful heat. The plan and section given on p. 673 (Fig. 3) show the construction of this fire-place; but it can be doubled by an open fire facing both ways, each of which would require its own separate flue. The smoke-flue is carried under the floor in a casing to the outer wall, where it joins the upcast shaft, and fresh air is admitted into the casing and thence up through the fire-clay cells behind and at the side of the fire into the ward.

For smaller wards, the ordinary room ventilating fire-grate is sufficient. In this fire-place (see Fig. 4) the part of the stove in immediate contact with the fire is lined with fire-clay, and the fresh air to be admitted into the room is heated by means of numerous flanges on the back of the stove. The ventilation afforded by this fire-place is regulated by the following conditions. So long as the doors and windows are closed and the fire-place alone is depended on for ventilation, the air is drawn along the floor towards the grate; it is then warmed by the radiating heat of the fire, and part is carried up the chimney with the smoke, whilst the remainder flows upwards near the chimney-breast towards the ceiling; it passes along the ceiling, and, as it cools in its passage towards the opposite wall, descends to the floor, to be again drawn towards the fire-place. It follows from this that the best position in which to deliver the fresh warm air required to take the place of that which has passed up the chimney, is at some convenient point in the chimney-breast, between the chimney-piece and the top of the room; for the air thus falls, consequently, into the current, and mixes with the air of the room without perceptible disturbance.

FIG. 4.



In connexion with the question of ward ventilation and warming a few remarks are required on the question of lighting. Gas-lights vitiate a large quantity of air; and in order to allow as few causes of vitiation of air to exist in the wards as possible, it is essential that the gas-lights in the wards should be separated from the air of the ward. To effect this they should be placed in glass globes so con-

structed as to enable the fresh air required for the due consumption of the gas to be brought in direct to the globe from the outer air, and for the fumes from the gas to be carried away similarly directly into the outer air, so that the inside of the glass globe shall have no communication with the air of the ward. These warming and ventilating arrangements for hospital wards have been found sufficient after a number of years' experience.

Correspondence.

"Audi alteram partem."

THE HOSPITAL FOR WOMEN.

To the Editor of THE LANCET.

SIR,—Will you kindly allow me space for a few remarks in reply to the letter of Dr. Protheroe Smith, which appeared in your last issue.

Dr. Smith alludes to the "apparent *animus*" of my former letter. I do not wish, Sir, in the least to disavow that *animus;* on the contrary, I desire it should be distinctly understood that I feel very strongly indeed that Dr. Smith's conduct throughout the whole of this miserable business has been most reprehensible, and I am very much mistaken if the publication of the facts thus far has not satisfied the profession on that point. Few persons, I venture to think, will recognise in Dr. Smith's conduct that straightforwardness and honourable candour towards his colleagues which one might expect after his expressed "desire to do what is right towards" them.

The question between us now, however, is not so much one of motive as of fact, and I again assert that Dr. Smith has distinctly misrepresented the three alleged facts upon which he attempted to justify his action. First, he states that my late colleagues and I, whom it pleases him to designate as my "party," rejected the customary rules of the Medical Committee by resolving that our meetings should be meetings of the staff, and that all present should have votes. I must confess I am surprised that Dr. Smith should have had the courage—may I not say audacity?—to allude to this subject, considering the part he has taken in it, as will appear presently; but as he has done so, a few words are necessary to explain the facts.

Formerly, only the senior members of the staff constituted the Medical Committee; the majority of us, however, felt that this rule created a very invidious distinction, and that, in fact, there was no sufficient reason why the assistant-physicians should be thus excluded from our meetings. Accordingly the rule was altered to this extent, against the wishes of Dr. Protheroe Smith. We desired also that the assistant-physicians should have votes, but to this Dr. Smith strongly objected, and threatened to oppose it in the General Committee. Knowing his influence with that body, we did not wish to court a defeat, and accordingly the subject dropped. When, however, the dispute about the now famous, or infamous, bye-law began, we all, except, of course, Dr. Protheroe Smith, felt that the question affected each one of us, junior and senior alike; and, as by the law the assistant-physicians could not vote in the Medical Committee, we decided that we would meet as a staff, all voting on equal terms. How, Sir, could we discuss the question fairly any other way? Yet this is what Dr. Protheroe Smith calls "rejecting the rules of the customary Medical Committee," and is that which he thinks justified him in refusing to meet and consider with us the grave questions which have led to the present disastrous state of the charity. The profession will, I think, take a very different view of his conduct in the matter. Nor is this all, for, finding that the voting power thus recruited was unlikely to increase his influence, he next gave notice of his intention to move "that the members of the medical sub-committee (i.e., the assistant-physicians) be requested not to attend the meetings of the Medical Committee for the future." This is the way in which he desired to treat his colleagues. Surely it is not necessary for me to say another word on this subject.

Dr. Smith repeats his statement that we took upon ourselves "the power of an inquisition to make judicial inquiry into the private character of the matron," and that we "called upon certain nurses to corroborate our charges." He further states that "the details of the judicial inquiry" are "entered fully in the Minute-book of the Medical Committee." The unfortunate matron may well say "save me from my friends," for it is certainly not the late staff who have brought her before the public in this painfully prominent manner. The fact is simply this—that in the course of our investigation into the nursing, and the matron's share in its defect, one of the nurses, quite unsolicited, and unexpectedly to us, made some charges against the matron; but it is wholly untrue to say that these were our charges, or that we called upon certain nurses to corroborate them. We heard of them for the first time in the way stated, and the letter which was sent from the Medical to the General Committee referred to them only as subjects which had incidentally come before us, and which we thought the Committee might investigate.

In regard to the third "fact" brought forward by Dr. Protheroe Smith I need say little, because he admits the correctness of the resolution quoted in my last letter, which distinctly refutes his former statement. In his first letter he said that we "requested the house-physician to give a written statement of his reasons for resigning." He even says that in the discussion it was urged that it was right to ask this question, but that we did not do so. So much for Dr. Smith's "statement of facts," which, I repeat, completely misrepresents the truth, and that, too, in a manner which does not now appear to be quite so unintentional as I had been led to hope.

I am, Sir, your obedient servant,

George-street, May, 1874. ALFRED MEADOWS.

THE EUCALYPTUS GLOBULUS.

To the Editor of THE LANCET.

SIR,—Some time since there appeared in the columns of the *Liverpool Mercury* a statement by M. Gimbert, originally addressed to the French Academy of Sciences, relative to the merits of the Eucalyptus globulus, a tree of extraordinarily rapid growth, which attains huge dimensions, and appears to possess an extraordinary power of destroying miasmatic influence in fever-stricken districts. It has the singular property of absorbing ten times its weight of water from the soil, and of emitting antiseptic effluvia.

It mentions Cuba, the Cape, various portions of Algeria, &c., where these trees have been planted with very beneficial effects. Fever and ague are now unknown by persons living in the districts, and those formerly affected now enjoy excellent health.

My desire is to know where, and at what cost, these trees can be obtained. If you can favour me with any information on this subject you will confer an especial favour on a fellow-countryman.—I am, Sir, yours respectfully,

Chicago, Illinois, U.S.A., April 6th, 1874. GEO. HUME CAREY.

*** Mr. John Waterer, the well-known horticulturist, of Bagshot, Surrey, can supply our correspondent with every information regarding the tree. We believe it is the intention of Mr. Waterer, at his great exhibition of rhododendrons, which is to take place in Russell-square at the end of this month, to set apart a certain amount of space for the display of the Eucalyptus globulus.—ED. L.

"OVARIOTOMY IN EXTREMIS."

To the Editor of THE LANCET.

SIR,—As the deductions which I drew in my recent paper on Ovariotomy (LANCET, May 2nd), and many others which I have talked over with my friends, have been clearly anticipated by Mr. Thomas Smith, it is due to him that I should invite attention to his most interesting and valuable paper in St. Bartholomew's Hospital Reports, vol. ix., "On some Points in the Surgical Treatment of Intra-peritoneal Injuries."

I regret the less that I had not been aware of his paper and ideas, as it renders the views of both of greater value that they have been thought over independently.

I am, Sir, your obedient servant,

Leeds, May 6th, 1874. T. PRIDGIN TEALE.

PARIS.

(From our own Correspondent.)

YESTERDAY the French Association for opposing the Abuse of Alcohol and Tobacco held its fifth annual meeting, Dr. Jules Guérin in the chair. The president made a very eloquent speech, in which he especially insisted on the decrease of the use of tobacco and spirits in France, as shown by the debates on the last budget in the National Assembly. He also expressed the pleasure which must be felt at the recent heavy taxes laid on both these noxious articles, and which must, he thought, cause a still greater diminution in their use. The general secretary then read a report on the works published during the preceding year on the effects of nicotine and alcoholism. M. Germond de Lavigne followed with a report on the rewards given by the Society to the authors of various memoirs, to several individuals who by their own example, or their efforts, had assisted in discouraging the use of tobacco, and especially to country teachers who had been influential in keeping their pupils away from tobacco and alcohol. Several gold, silver, and bronze medals were afterwards distributed.

A discussion on the physiology of the heart is now going on at the Paris Academy of Medicine. Nothing very new has until now cropped up from the debates. The discussion seems rather one on the comparative value of clinical observation and experimental research. Marey has had to defend various theories propounded in his well-known treatise on the circulation of the blood against Bouillaud, that most competent of heart-doctors, whose theory on the bruits of the heart is almost universally admitted in this country.

The Brest branch of the French Medical Association has just made its salutary influence felt for the defence of professional interests. The case was rather a curious and important one. A retired naval officer had found means during several years to increase his income by the illegal practice of medicine and by the sale of tiny bits of sugar steeped in liquids for the nominal sum of fivepence each. He called himself a homœopath, and openly visited patients, and gave consultations, charging the same fees as the medical men of Brest. This was no vulgar and illiterate impostor, and his success was the greater as he was a superior naval officer, and always gave his consultations in full uniform. Thus he quietly went on making a good business out of the thing, though he had once before been reprimanded by the tribunal and condemned to a fine. But the fines imposed by the French tribunals for the illegal practice of medicine are so ridiculously small that they are only incentives to renewed action. This time the Brest Association was determined to put a stop to the thing. Upwards of 136 "contraventions" or misdemeanours were proved, and the ex-captain condemned to pay £120.

The great literary event of the week in our medical world is the publication of the "French Medical Parnassus," by Dr. Chereau, in which the learned author gives us a selection of the poetical productions of all living or departed French doctors who ever sacrificed to Apollo. The book is a most curious and interesting one. Among other anecdotes, it is stated that when Claude Bernard paid his first visit to Paris, the object of his venturesome excursion to the great city was to present a tragedy written in verse, the subject of which was Louis the Sixth. This was in 1834. The young poet was, however, soon induced to seek a more congenial sphere of labour. Ricord also has courted the muse, and fifty years ago published a poem in three cantos.

In a preceding letter I related the history of the youth who had swallowed a fork, and who is now popularly known here as "l'homme à la fourchette." He has left the Hôpital la Pitié, and is now staying at a private maison de santé, still under the care of Dr. Labbé. As I wrote you, during the first few days the patient felt none the worse for the presence of the fork in his stomach. After the sixth day, however, he began to complain of pain in the pit of the stomach when the organ was empty, especially in the morning. Pressure on the left side of the stomach causes most intense pain, though nothing is to be distinctly felt by the surgeon in that part. Only once has he suffered from temporary pain in the bowels. The general condition is excellent, and Dr. Labbé is still deferring active treatment.

The professors at the medical schools are now busy at work. Two of them, only quite recently, however, began their lectures, Professor Vulpian and M. Guéniot. M. Vulpian, the Professor of Experimental Pathology (who has taken the chair left vacant by the departure of Brown-Séquard), has chosen a most interesting subject for his present lectures—namely, the investigation of chloral and the physiological phenomena which follow on intravenous injection of the substance. M. Guéniot, who is remarkable as a teacher for clearness and conciseness, is lecturing on dystocia and obstetric operations.

Paris, May 5th, 1874.

HOSPITAL FOR WOMEN, SOHO-SQUARE.

THE annual meeting of this hospital was held on Monday last, under the presidency of the Earl of Shaftesbury. After the usual routine business had been transacted, the meeting was declared special in order to deal with the points in dispute between the committee of the institution and the medical staff. The Marquis Cholmondeley read a statement, in which the committee disclaimed any intention of acting with discourtesy to the medical staff, as alleged by the retiring members in their pamphlet. After a few remarks of a conciliatory nature by Sir Rutherford Alcock, the following resolutions were passed:—

"All honorary medical officers of the hospital shall be elected at a special general meeting of the members on the nomination of the committee."

"Every physician or surgeon shall, on his completing the age of sixty-five, vacate his office, but may be appointed consulting physician or surgeon if the members assembled at a special general meeting, convened for that purpose, shall think fit."

"The institution shall be under the management of a committee, consisting of not more than fifteen or less than twelve members, and one third of the number, who have been longest in office, shall go out by rotation annually, but shall be eligible for re-election at the annual meeting of subscribers, four being the number to go out if less than fifteen constitute the committee. The committee shall have power to fill up vacancies occurring by death, resignation, or otherwise before the next annual meeting."

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen was admitted as a Fellow of the College on April 30th:—

Dickson, Sir Joseph Ritchie Lyon, M.D. Malta, Teheran, Persia.

At the same meeting the following gentlemen were admitted as Members:—

Jagielski, Apollonaris Victor, M.D. Berlin, Weymouth-street.
Smith, Gilbart, M.D. Dublin, Harley-street.

And the following were admitted as Licentiates:—

Bark, Ernest Onesimus, Leicester.
Beach, Fletcher, Great Ormond-street.
Beadles, Hubert, New Southgate.
Bower, Reginald, Knowle, Warwickshire.
Brash, Edward Alexander, Buckingham.
Brayn, Richard, Market Drayton.
Coke, William Harriott, Tottenham.
Crowther, Arthur Bingham, Hobart Town.
Comins, Dennis Wood, Witheridge.
Douglas, Claude, Halfmoon-street.
Duran, Carlos, Costa Rica.
Fry, John Farrant, Guy's Hospital.
Houghton, Walter Benoni, Tottenham-court-road.
Keer, George Edwardes, Wickham Market.
Lambert, William Osborne, M.D., Sunderland.
Lupton, Harry, Thame, Oxfordshire.
Nunez, Daniel, Costa Rica.
Owen, Charles William, Kennington-road.
Paley, William Edmund, Guy's Hospital.
Redmond, William, Chatham Dockyard.
Simmonds, William Allason, Gravesend.
Stowers, Jas. Herbert, St. Bartholomew's Hospital.
Thompson, Henry, Infirmary, Hull.
Wear, Arthur Taylor, Newcastle-on-Tyne.
Webber, Wm. Littleton, West London Hospital.
Whittle, Edward George, Whitehaven.

THE new building in connexion with the Glasgow Eye Infirmary was formally opened last week. The institution was founded in 1824 by Drs. Mackenzie and Monteith.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The following gentlemen have recently passed the primary examination in Anatomy and Physiology:—

J. W. C. Merriman, J. A. Vasey, F. C. Compton, B. F. Zimmerman, H. E. Friend, A. W. F. Street, W. E. Collins, F. G. D. Drewitt, P. M. Ellis, F. F. Glanville, S. W. Vasey, J. H. Ross, E. P. Apthorpe, and S. H. Edgelow, St. George's Hospital; G. S. Bayley, J. F. Trafford, E. S. Smith, J. T. Buncombe, R. Walford, E. Martyn, P. S. Spokes, and C. F. Middleton, University Coll.; H. Mackay, J. B. Emmerson, M. Duggan, and S. Braithwaite, Newcastle-on-Tyne; D. B. Lees, C. E. Bell, P. E. Wallis, E. H. Williams, A. C. Brock, A. Bain, T. S. Sheldon, and F. A. Hyne, Guy's Hospital; A. H. Watkins and W. H. Sutcliffe, Glasgow University; E. O. Jones, C. S. Watson, J. H. Hay, J. C. Eames, and O. W. Smith, Edinburgh University; J. Gill, R. R. Harpar, and E. H. Hare, St. Thomas's Hospital; L. P. H. Birt, Charing-cross Hospital; C. C. Jones, Bristol; H. R. Vachell, R. Clarke, and S. L. Richardson, King's College; A. J. Popert, London; S. G. Parkinson, St. Mary's Hospital; G. R. Armstrong, Dublin; J. W. Scott, Sheffield; W. R. Basham, Westminster Hospital; F. G. Wride, H. C. Noott, C. De L. Brock, F. N. Hume, W. Morgan, C. C. Smith, H. North, E. Ramsebotham, T. G. Cape, M. H. Green, F. M. Sandwith, and C. W. Evans, St. Thomas's Hospital; J. Todd, B. G. Godfrey, and W. H. Blake, University College; E. G. Dutton, T. F. Pedley, H. Wright, T. Jones, R. R. W. Oram, R. O. Cusack, F. G. Stewart, L. Jones, C. E. Perry, A. J. Rowbotham, W. Phelps, and G. W. Lacey, Guy's Hospital; L. Druitt, M. Gainsford, A. S. Underwood, J. Price, and D. P. H. Taylor, King's College; P. K. Cree, W. Walker, and H. B. Ellis, Middlesex Hospital; G. A. W. Cones, St. George's Hosp.; G. L. Lennon, A. Galland, H. C. Smale, A. Richardson, J. E. Looker, and J. W. Ashworth, Manchester; C. C. Cripps, Bristol; A. S. Currie, Glasgow; A. H. Collier and J. J. F. Barnes, Westminster Hospital; W. H. Beverley, J. Corrie, and M. C. Sweeting, Leeds; A. Thompson, A. W. W. Dowding, and P. M. Richards, London Hospital; J. M. Edwards and H. Prytherch, Dublin; F. G. H. Whiteley, W. J. B. Clarke, G. W. Hambleton, R. Haseleden, W. P. Feltham, C. P. B. Clubbe, G. Hindle, A. C. B. Smyth, G. M. Tuke, and R. H. Baillie, St. Bartholomew's Hospital; A. A. Mouritz, Liverpool; G. Whelan, Montreal and St. Thomas's Hospital.

Of the 181 candidates examined during last and the present weeks, 61 failed to satisfy the Court of Examiners, and were referred to their anatomical and physiological studies for three months.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on April 30th:—

Jones, James Thomas, Tredegar, Monmouth.
Perkins, John, Notting-hill.
Potts, Edward, Edinburgh.
Romano, Frederick William Richard, Albany-road, Camberwell.
Schlésinger, Maurice Martin, Chichester-street, Hyde-park.
Sincock, John Bain, Manor Hall, Forest-hill.

The following gentleman passed his Primary Professional Examination on the same day:—

Ford, Robert Giles, London Hospital.

VACCINATION GRANT.—Mr. James W. Harrison, M.R.C.S. E. and L.S.A., public vaccinator for the No. 1 District of the Eccleshall Bierlow Union, has just received the Government grant of £72 2s. for efficient vaccination in his district.

DURING the last quarter no less than 4157 persons died of violence in some form or another in England. Railways, mines, and machinery were, of course, the principal factors in the slaughter. In the same period 12,399 died in public charitable institutions.

DR. COX, of Innerleithen, N.B., while stepping out of his carriage, had his right foot caught between the spokes of the wheel, and sustained a severe compound fracture of the ankle-joint—the foot being almost torn from the leg. He was immediately conveyed to Edinburgh, and there an operation was successfully performed on the limb by Dr. Patrick Heron Watson.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At the annual meeting on Tuesday last for the election of examiners for the ensuing year the following were appointed: — *Anatomy and Surgery:* Christopher Fleming, B. Wills Richardson, Edw. A. Stoker, John Barker, Edw. S. O'Grady, Robert McDonnell, William H. O'Leary. *Midwifery:* John Cronyn, J. R. Kirkpatrick, William Roe. *Arts:* J. H. Tweedy, William Stoker, J. M. Ward.

BEQUESTS TO MEDICAL CHARITIES.—The Rev. E. F. Beynon bequeathed £1000 each to St. George's Hospital and the Northampton General Infirmary; £500 each to the Middlesex Hospital, King's College Hospital, the Walton-on-Thames Convalescent Asylum, and the Brompton Consumption Hospital; £300 to the Westminster Hospital; £250 to the Charing-cross Hospital; and £100 each to the Royal Free Hospital, the Royal London Ophthalmic Hospital, and the City of London Truss Society.

Medical Appointments.

ANDERSON, T., M.B. (Assistant Medical Officer to the Southern Counties Asylum, and to the Crichton Royal Institution, Dumfries), has been appointed Medical Superintendent to the Mid-Lothian and Peebles County Asylum, Roslin, near Edinburgh.

BANKS, W. M., M.D., F.R.C.S.E., has been appointed Registrar to the Royal Infirmary School of Medicine, Liverpool, vice Harrison, resigned.

BOOTH, J. G., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for the Padiham and Hapton Urban Sanitary District: £25 for one year; population 7000.

BRADLEY, J., M.R.C.S.E., has been appointed Medical Officer for the Workhouse, and Medical Officer and Public Vaccinator for No. 1 District of the Lunesdale Union, vice Sandell, appointed Medical Officer to the Caine Union.

CAMERON, J., L.F.P. & S. Glas., L.M., has been appointed Medical Officer and Public Vaccinator for the Sunari, Ardnamurchan, and Moidart Districts of the Parish of Ardnamurchan, Argyleshire, vice Macrae, resigned.

CARLYLE, Mr. J., has been appointed Resident Medical Officer to the Greenock Infirmary, vice M'Lelland, appointed Medical Officer of Health for Bonhill, Dumbartonshire.

CHABOT, H., M.R.C.S.E., has been appointed Medical Officer for the St. George District of the Parish of St. Giles, Camberwell, vice E. Chabot, M.R.C.S.E., resigned.

CLARKE, J. C., M.B., M.R.C.S.E., has been appointed Medical Officer of Health for the Little Hulton Urban Sanitary District: £10 per annum; acreage 1706; population 4805.

CREMEN, P. J., M.D., M.R.C.S.E., has been appointed Medical Officer to the Cork Union Infirmary.

CUTHBERTSON, J. M., L.R.C.P.Ed., has been appointed Medical Officer of Health for the Windhill Urban Sanitary District: £35 for one year; acreage 290; population 5783.

DALY, R. A. S., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Resident Medical Officer to the Chorlton-upon-Medlock Dispensary, vice Hosegood, resigned.

DE SANCTIS, L., M.B., C.M., has been appointed Surgeon to Benin River, West Coast of Africa.

DOWSE, J., L.S.A.L., has been appointed Medical Officer of Health for the Denby Urban Sanitary District: £9 10s. per annum; acreage 2713; population 1637.

FINLAY, D. W., M.D., C.M., has been appointed Resident Physician's Assistant to the Middlesex Hospital, vice Whateley, whose term of office has expired.

GLADSTONE, J. H., Ph. D., F.R.S., has been appointed Fullerian Professor of Chemistry at the Royal Institution of Great Britain.

GRACE, E. M., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the West Gloucester Friendly Society, Thornbury, vice Long, deceased.

GREENHILL, E. S., M.R.C.S.E., has been appointed House-Surgeon at St. Bartholomew's Hospital, vice Waylen, resigned.

GRIGG, J. C., F.R.C.S.E., has been appointed Surgeon-Accoucheur to the St. George and St. James Dispensary, King-street, Regent-street.

GRIMBLY, R., M.R.C.S.E., has been reappointed Medical Officer of Health for the Banbury Urban Sanitary District: £40 per annum for three years.

HANNAH, N., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Officer of Health for the Ashton-in-Makerfield Urban Sanitary District: £30 per annum; acreage 6250; population 7493.

HOUGH, J., M.R.C.S.E., has been appointed Medical Officer to the Cambridge Police Force, vice Ransom, deceased.

JONES, J. F., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed Medical Officer and Public Vaccinator for the Towyn District of the Machynlleth Union, vice Pughe, deceased.

KERSHAW, A., M.R.C.S.E., has been appointed Assistant-Surgeon to the 27th Lancashire Rifle Volunteers, Bolton.

KIRWAN, A. W., M.D., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Kilmacthomas Dispensary District of the Kilmacthomas Union, Co. Waterford, vice Coghlan, deceased.

LILL, W. F., M.B., M.R.C.S.E., has been appointed House-Surgeon to the Lincoln County Hospital, vice H. D. Male, resigned.

MACFIE, J., M.B., C.M., has been appointed Resident House-Surgeon to the Edinburgh Royal Maternity Hospital, vice Fehrsen, whose term of office has expired.

M'LELLAND, A., M.B., L.R.C.S.Ed., has been appointed Medical Officer of Health for Bonhill, Dumbartonshire.

MASTERTON, J., M.B., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Assistant Medical Officer to the Wiltshire Lunatic Asylum, Devizes, vice Symes, resigned.

MUNRO, W., M.D., C.B., has been appointed Head of the Medical Branch of the Army Medical Department, vice Rutherford.

NICHOLSON, A., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon and Secretary to the Torbay Infirmary and Dispensary, Torquay, vice Powell, appointed a Physician.

O'SULLIVAN, S., M.D., has been appointed Medical Officer for the Cork No. 5 Dispensary District of the Cork Union, vice Cremen.

PETIT, J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Assistant to the Medical Superintendent of the Richmond District Lunatic Asylum, Dublin, vice Leney, resigned.

POWELL, W., M.B., F.R.C.S.E., has been appointed a Physician to the Torbay Infirmary and Dispensary, Torquay.

RUDKIN, G. M. A., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the Sutton-upon-Derwent District of the Pocklington Union, vice Widdas, resigned.

RUTHERFORD, W., M.D., C.B., has been appointed Head of the Sanitary Branch of the Army Medical Department, vice Muir.

SANSOM, A. E., M.D., M.R.C.P.L., has been appointed an Assistant-Physician to the London Hospital, vice Mackenzie, resigned.

SAUNDBY, R., L.R.C.P.Ed., has been appointed Resident Physician to the Royal Infirmary, Edinburgh.

SPARROW, W. C., L.K.Q.C.P.I., M.R.C.S.E., has been appointed House-Surgeon to the Bury Dispensary, vice Barr, resigned.

WRIGHT, M., M.R.C.S.E., has been appointed Medical Officer for No. 8 District, St. Saviour Union, vice Williams, deceased.

Births, Marriages, and Deaths.

BIRTHS.

BRYANT.—On the 1st inst., at Sussex-square, the wife of John H. Bryant, L.R.C.P.Ed., of a daughter.

EAGER.—On the 30th ult., at Burton Cottage, Woking, Surrey, Grace Isabella, the wife of Dr. T. Cawley Eager.

LAWSON.—On the 3rd inst., at Yarra House, Enfield, the wife of T. C. Lawson, M.R.C.S.E., of a son.

THOMSON.—On the 30th ult., at Campbell House, Higham-Ferrers, Northamptonshire, the wife of D. Thomson, M.D., of a son.

MARRIAGES.

ROWLAND—JONES.—On the 6th inst., at St. Augustine's Church, Queen's-gate, Hugh Mortimer Rowland, M.D., M.R.C.S.E., of Malvern Wells, to Maria Antoinette, daughter of Capt. W. Foxcroft Jones, Adjutant of the Oxford University Volunteers.

TICEHURST—JOY.—On the 29th ult., at All Saints, Maidstone, Charles Sage Ticehurst, L.R.C.P.L., to Alice, daughter of Henry W. Joy, F.R.C.S.E.

DEATHS.

BIRD.—On the 28th ult., Frederic Bird, M.D., of Grosvenor-street, aged 56.

GAISFORD.—On the 4th inst., Thomas Gaisford, M.R.C.S.E., of Upper Gloucester-place, aged 59.

HANSLIP.—On the 3rd inst., Thos. Hanslip, M.R.C.S.E., of Milner-street, Islington.

LLOYD.—On the 29th ult., John Augustus Lloyd, M.D., of Bath.

MARCHISIO.—On the 1st inst., Giacomo Felice Eduardo Marchisio, M.D., of Baker-street, aged 54.

NUGENT.—On the 27th of Feb. (two days before arriving at the Straits of Magellan), Henry Nugent, L.K.Q.C.P.I., Surgeon Army Medical Department (son of John Nugent, M.D.), aged 33.

SWETE.—On the 2nd inst., B. L. Swete, M.B., of Gaisford-street, Kentish-town, aged 54.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Mr. Williams: Skin Diseases of Constitutional Origin.
Mr. Southall: Organic Materia Medica.
Griffiths' Universal Formulary.
Mr. Halton: Sanitary Subjects.
Contanseau's French Series.
Société Médicale des Hôpitaux de Paris.
Catalogue of the Library of the Surgeon-General's Office, U.S.A.
Case-book.

Notes, Short Comments, and Answers to Correspondents.

WHAT NEXT?

THE observations recorded under the above title in THE LANCET of the 7th March have met, we are glad to say, with the attention in India which the subject deserved. It would have been a waste of money and an insult to the large body of medical men serving in that country to have sent out a special Commission from England with the view of undertaking an investigation into a subject for which those on the spot were in every respect best qualified; and we trust and believe that the proposition, if ever seriously entertained by the Home Government, has now been completely set aside.

Flora.—Yes; lectures and demonstrations on botany are occasionally given at the gardens of the Apothecaries' Society at Chelsea. A course of such lectures, conducted by Mr. Moore, curator of the gardens, will commence on June 3rd.

Dr. Spencer Cobbold's paper shall appear if possible next week.

CASE OF TRIPLETS.

To the Editor of THE LANCET.

SIR,—The following case of triplets has, I think, several points of interest.

I was called in early morning on the 18th instant to Mrs. ——, of Porchester-mews, to attend her in her first confinement. She stated that she had been in pain for some days, and was feeling quite worn out. On examination I found a head presentation and well dilated os. I gave a large dose of ergot without any effect. After waiting half an hour I delivered with forceps a male child, dead some time; the skin was peeling off, and the cord was dark and gelatinous. I immediately discovered another head presenting, and also delivered with forceps another male child, which is now living. On again examining I discovered another head presenting, and delivered a third male with forceps; the latter was only recently dead. The peculiar part is that there was only one placenta. I carefully examined the three cords attached to it. That of the first child was in the condition before described up to its placental attachment. The only way I can account for it is, that the circulation must have been arrested from some pressure on the cord, probably by being wound round the limbs of one of the other children. Another point of interest is, that a dead child should have been so long in placental connexion without evil results to all. The living child I have seen to-day; it is doing well, and the mother is about as usual. I am, Sir, yours faithfully,

WM. WIGMORE, M.R.C.S. Eng.

Inverness-road, Bayswater, April 28th, 1874.

WINTER WEATHER IN JERUSALEM.

WE lately commented on the "Sunny South" as being, at least for the past winter in Italy, Tunis, and Egypt, a misnomer. A lively correspondent in *The Times* describes Jerusalem as not less severely visited by rain and snow. A violent hailstorm descended on Port Said on the 19th of March, when the cold was as intense as that of any English winter. A week later Jerusalem was lying under mounds of snow. "Parties of tourists found the whole country thoroughly saturated with water, the rivers swollen, bridges washed away, so that bedding carried on mule-back from one camping-ground to another was unfit for use. The servants were up all night, mallet in hand, to drive down the ever-starting tent-pegs, for which there was little hold in the soft mud. Then came a sudden squall; the pegs started quicker than all hands could replace them; the wind got under the canvas, away it went, snapping the pole in half, to the imminent peril of the sleepers, and the certain soaking of clothes and beds. Two parties, encamped outside the Jaffa Gate of Jerusalem, were driven into the city to be huddled into overflowing convents, two small inns, and such private houses as would take pity upon them." The houses are fortified, not against rain and snow, but against heat; so that "when the windows of heaven are opened," not even the roof has a chance against the downpour. Less favourable weather for the phthisical than what has prevailed this winter at Cairo, Port Said, and Jerusalem could not be imagined. In the latter city, with truly tropical caprice, bright days have set in, with a warm wind and a scorching sun; the soaking ground will sprout up in luxuriance, and will also (*The Times* correspondent fears) exhale miasma in the Holy (but unsewered) City, and typhoid may add its fatal influence to the malaise already engendered by cold.

Prof. Bentley's request shall receive attention.

MEASLES AT ADVANCED AGES.

To the Editor of THE LANCET.

SIR,—Having seen the note in your issue of April 25th referring to measles at advanced ages, I beg to forward for your information a brief report of the following cases which came under my care during the present month.

On the 1st April I was called to see a lady, aged about forty-three years, who was reported to be suffering from a "rash." On examination the skin was found to be covered with the undoubted eruption of measles. The exanthem was thick and copious on the neck and chest, where the coalescence of the spots in several places produced the diagnostic crescentic appearance. The eruption was sparse on the face and limbs, and again rather thick about the joints, especially the wrists. The eyes were suffused, and the patient had been sneezing a good deal. Skin hot and rather dry. The foregoing symptoms had for the week previously been preceded by malaise, followed by shivering and pyrexia. The catarrhal symptoms were slight, and the fauces of normal appearance. Eruption began to fade on the fourth day. Treatment: Confinement to bed for a few days, mild diaphoretics, and subsequently infusion of gentian with dilute hydrochloric acid. The patient had suffered from measles before, when a child. The source of infection in this lady was most probably from her niece, a young girl, aged seventeen, who between the second and third week in March was the subject of measles. This case I did not see; but the mother of the girl subsequently described to me very accurately her symptoms, and the description was certainly that of true measles. The mother had frequently seen measles before, and also informed me that this was her daughter's second attack.

Another case of true uncomplicated measles occurred in the person of a gentleman, aged twenty-five years (not acquainted with the patients just mentioned), who came to London from Edinburgh three weeks before the appearance of the rash from which he afterwards suffered. I was sent for to see him on the 6th April, when I found him affected with high pyrexial and slight catarrhal symptoms, and the skin covered with a very thick and unmistakable morbillar eruption, which in a few places on the chest developed itself in decided "horse-shoe" shaped patches. The eyes were suffused and watery; there was sneezing. In fact, this case was similar to that first described, with the difference that in the gentleman the pyrexial symptoms ran higher and were followed by greater diaphoresis, and the eruption was more copious, beginning to fade on the sixth day. Throat unaffected. Treatment the same as in the lady's case. Infection probably took place in this neighbourhood, measles having been rife in the adjoining district for some time past.

I regret being unable to state the temperatures, as I did not make any thermometrical observations in these cases.

I remain, Sir, your obedient servant,

JAMES A. GAVEN,
Late Surgeon, Royal Marine Artillery.

Alfred-place, Thurloe-square, S.W., April, 1874.

AN OPHTHALMIC CASE.

IN the case under this heading, lately reported by Mr. W. J. Corin, *Dr. Henry Dunne* (Birmingham) advises the administration of bromide of potassium. He has found much benefit following its employment.

Fairplay.—Decidedly unprofessional.

Mr. Southall.—At the time of going to press we had not received the pamphlet.

SEA-SNAKES.

To the Editor of THE LANCET.

SIR,—In your number of Jan. 17th is a short paragraph, to the effect that Mr. Frank Buckland, in a lecture on Natural History, stated that he did not believe in the existence of sea-snakes, and that he offered £50 a foot for them. I wish I had known this about three years ago. When in a terribly hot voyage with troops in a sailing vessel up the China Sea, I used frequently to see these snakes, hundreds of miles from land. Those who were on board used often to watch them dive when startled, and they could be seen going down in a straight line in the clear calm sea for five minutes. I think this shows they were in their native element. Should I ever be in those latitudes again, I shall certainly try to capture a few feet, and I hope Mr. Buckland will still stick to his offer. Yours truly,

Port Blair, March 1st, 1874. WANDERER.

A Registered Apothecary is undoubtedly not entitled to use the title "surgeon." In so doing he violates the 40th section of the Medical Act, and lays himself open to fine. At the same time we do not admire the taste displayed in the circular sent us, and which is said to be distributed in the neighbourhood of Kilburn, in which revenge apparently is taken by a surgeon on an apothecary, by publishing that "all persons practising as surgeons and accoucheurs who are only apothecaries, chemists, and herbalists, are liable to a fine of £20." Such a device can only deceive the ignorant. An apothecary is in a very different category from a chemist and a herbalist, being in this case a registered and duly qualified practitioner. The use of the word "surgery" is not specifically referred to in the Medical Act. It means in strict language not a place or a room, but an art.

P. P.—The scales of one place are not suitable to another, and we recommend our correspondent to use his own judgment, considering, on the one hand, the fair self-respecting value of his own services, and, on the other, the means of his patients.

Mr. T. A. Buck, (Lower Streatham.)—We would advise our correspondent to act in the manner suggested.

F. L. S.—Dr. Thomas Young was, we believe, for some time physician to St. George's Hospital. A life of the eminent savant was given to the world in 1855 by Dr. Peacock, who also edited his "Miscellaneous Writings."

Dr. Vandyke Carter's paper shall be published at an early date.

GRATUITOUS ADVICE.

To the Editor of THE LANCET.

SIR,—I beg leave to state the following facts for your opinion and advice. My practice and union district lie about eight miles from a large market town, where there is a consulting practice held by two gentlemen, with whom I am on friendly terms. These gentlemen on certain days give *advice gratis* to any patients attending at their residence by their *paying for medicine only*. Now it has come to my knowledge lately that some of my well-to-do patients (shopkeepers, &c.) avail themselves of this inexpensive means of obtaining medical advice, thereby injuring my practice. It strikes me if *charity* be the *real motive* which actuates these gentlemen, they could find ample scope among their own patients, and in the town in which they reside, by giving gratuitous advice to those persons whose pecuniary means are small, and yet who could not be classed amongst paupers.

Your obedient servant,

April, 1874. A SUBSCRIBER.

*** We agree very much with "A Subscriber" in his view of the system which he describes.—ED. L.

Botanist, (Derby.)—M. Bert has studied the effect of variations of atmospheric pressure upon vegetables. In a paper communicated to the Académie des Sciences some months ago, he stated that germination takes place more slowly in proportion to the lowness of the pressure. Seeds placed under a pressure equivalent to that of two or three atmospheres seem to germinate somewhat more rapidly and vigorously than those under ordinary circumstances, but if the pressure is increased to a considerable extent germination is interfered with; and in air at a still higher pressure seeds are killed, even when germination has commenced.

X. Y. Z.—We agree with our correspondent that he should have been informed beforehand, if not invited to be present.

Mr. Butterfield.—The matter shall be noticed in our next number.

FEMALE MEDICAL EDUCATION IN GREAT BRITAIN.

To the Editor of THE LANCET.

SIR,—Without here commenting upon the absurdity or otherwise of the above proposition, I wish to suggest that, since the Edinburgh University Court has very recently petitioned Parliament against the Universities (Scotland) Bill (having for its object the granting of powers to the Scotch Universities to instruct women in medicine or any other subjects), I hold it *to be a duty incumbent upon, at least, the Edinburgh graduates in Medicine*, one which they owe to themselves and to their Alma Mater, *also to petition strongly* against the above Bill, and thus to aid the few who are now fighting *their* battle in Edinburgh. Their lukewarmness as a body so far, in this affair, so closely concerning them, has been a matter of surprise to me.

Yours &c.,

May 5th, 1874. C. M.

Mr. P. Butler Stoney.—Almost any qualification is legal in America, and almost every State gives numerous degrees or diplomas; but they are worthless, legally, in this country, and very properly so, as they are granted in a very loose way. The coroner's remarks were very proper.

Rufus.—Yes, if qualified; but it would be better to get the certificate from an independent quarter.

R. B.—The University of St. Andrews has a limited power of conferring degrees in such cases.

Dr. A. J. Melntosh.—We fear that our correspondent has no claim on the guardians.

The Authors of the Crucial Test Tested.—Next week.

SUPRA-PUBIC LITHOTRITY.

To the Editor of THE LANCET.

SIR,—Could any of your numerous readers inform me if the operation of lithotrity has been performed above the pubes. M. Dolbeau, of Paris, has recommended and successfully performed what he calls "perineal lithotrity," which has also an advocate in Dr. Gouley, of New York. Mr. Teevan has related cases of sterility occurring frequently after the lateral operation of lithotomy. Might not "supra-pubic" lithotrity be attempted, as it would not require anything like so large an opening as when stones of some dimensions have to be extracted? Your obedient servant,

The Infirmary, Sunderland, May, 1874. WM. L. WHITE, M.B.

In Statu Pupillari.—In Japan, as indeed throughout the East, obstetrics are practised solely by women. The demand for accoucheurs being *nil*, the State School of Medicine at Yeddo, which is under German organization, does not embrace obstetrics in its curriculum.

Enquirer.—1. Erichsen's Surgery.—2. Billroth's Pathology; Lawson on the Eye.—3. Maunder's Operations on the Dead Body.

Mr. Walter Rivington.—The lecture shall be published.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—Will you permit me to bring to notice in your columns the truly wretched state of the army medical service at the present time? I am aware you have been a kind and constant advocate of our rights, and therefore trust you will publish this appeal to the country and profession to get matters improved.

The terms of Mr. Cardwell's Warrant of 1873 are so well known, and the flagrant injustice contained in it has been so often commented on by you and other public journals, that I will not waste time by any recapitulation of them. I now more especially wish to note what may be called his "rider" to it, promulgated shortly before he took his departure to the "realms of bliss" in "another place." I allude especially to his circular, by which he restored 2*s.* 6*d.* a day to surgeons after fifteen years' full-pay service, and forage to surgeon-majors promoted prior to the 1st April, 1873.

Regarding the first point, it is well known that, driven into a corner by the weight of public opinion, Mr. Cardwell agreed to restore the 2*s.* 6*d.* per diem; but at the same time he said: "Well, as my promise to promote at fifteen years has not been believed, and I have now to restore the 2*s.* 6*d.* a day, I will not promote the large batches I intended to every 1st of April and 1st of October." With reference to this I beg to point out that Mr. Cardwell never did promise promotion after fifteen years, but said we might look forward to it with confidence!

Regarding the restoration of the forage to the surgeon-majors promoted prior to 1st April, 1873, as by this step he virtually shut the mouths of all those senior officers, knowing full well that it is not in human nature for men to fight the battles of their juniors when they themselves have nothing to gain by it, the result being, as he no doubt foresaw, a cessation in agitation to a very great extent.

Now, Sir, I am in a position to state that under the present system the Medical Department of the Army is gradually drifting to leeward, and unless a speedy hand be stretched out by the present War Minister the medical service of the army will become totally disintegrated. Whether it be in India or at home, the same state of things is seen on every side. In India, surgeon-majors of eighteen years' service are sent in medical charge of detachments under the command of young sub-lieutenants; while surgeons of four and five years' service are enjoying the sweets of cantonment life with their batteries of R.H.A. or cavalry regiments. In this country it is much the same. Last year at Aldershot medical officers of twenty-five years' service might be seen cooling their heels at a "bathing parade," or sitting all day on a three-legged stool, looking on at "Cardwell's men" learning to shoot, and being actually obliged (they ranking as lieutenant-colonels) to report themselves to some young lieutenant or musketry instructor.

These are only a very few of the points wherein redress is urgently required, and I will now offer a few suggestions on the subject.

First, as regards the "unification" system. Has it been carried out? No, most distinctly not I say, and it ought at once to be determined whether the Medical Department of the Army is to be a purely regimental one or not. I am not advocating a return to the old regimental system; but this I do say, either at once make us a purely staff service on the same basis as the Royal Engineers, or restore the regimental service in its integrity. If the former is adopted, it ought to be at once clearly specified, and medical officers should be entitled to their staff allowances, as laid down in the regulations. Now when a medical officer applies for his lodging allowance, say, he is told by the control officer, "Oh, no; you are regimental, and therefore only entitled to allowances as such." This in the case of a surgeon of six years' standing means having two rooms less than he ought to have, or 3*s.* a day less in lieu.

Again, as regards uniform. What can be more absurd than to see medical officers in scarlet out in the field with artillery or cavalry in blue, or rifles in green? Why, in these days of arms of precision, he would simply be a "bull's-eye" for the enemy's riflemen. And could there be a more useless encumbrance than the present "cocked-hat"? The forage-cap, too, is much more like that of a railway guard than of a commissioned officer; and while we have been allowed respectable belts, they are all but useless, as we are obliged to wear those hideous black ones on almost every occasion.

Another point. Why is there now no "roster" kept at No. 6, Whitehall-yard? Can it be the Director-General wishes to retain in his hands the power of sending men abroad how and when he likes?

If Mr. Hardy really wishes to put the Medical Department of the Army on a proper footing (and it is said he does), he ought at once to issue a Royal Commission, and take evidence on the various points at issue. This has lately been done regarding the grievances of our (so called) combatant brethren about purchase, and why should it not be extended to us?

I remain your obedient servant,

May, 1874. A SURGEON OF FIFTEEN YEARS' SERVICE.

To the Editor of THE LANCET.

SIR,—The question recently raised in Parliament by Mr. Herbert in reference to the inability of a medical officer attached to a battery of field artillery to ride from Bristol is one of some importance to the efficiency of the army. Under former regulations, surgeons, being attached to mounted corps for long periods, and regarding themselves as part of the regiment generally, managed to obtain some experience of, and practice in, military equestrianism at their own expense, and by private arrangement with the riding masters. Now, however, army surgeons belong to "everything in general," and may be called upon to do duty in any branch of the service at a moment's notice, and it seems to be the duty of the Government to teach them to ride as they teach officers of mounted regiments. Some allowance should also be given or arrangements made (so that medical officers may not be obliged to ride as ordinary troopers, and without the appointments of officers), as they do at present when on temporary duty with mounted corps; for there is no valid reason why the doctor should be different in this respect from the other officers.

Your obedient servant,

May, 1874. A. B. C.

CARBOLIC ACID AS A FEBRIFUGE.

A WRITER in the *Indian Medical Gazette*, as the result of an extensive trial of this substance, when administered internally in the treatment of fever as recommended by some writers, states his conviction that it is of no value whatever in the treatment of intermittent fever. In some cases a few doses of quinine or of quinidine proved efficacious in curing the fever after the marked failure of carbolic acid.

Dr. Squire.—The report shall be published in our next issue.

Mr. Ross Major.—We shall be happy to receive the paper.

COMMUNICATIONS, LETTERS, &c., have been received from—Prof. Bentley, London; Mr. John Wood, London; Prof. Browne, London; Dr. Sturges, London; Mr. Fairlie Clarke, London; Dr. Ogle, London; Dr. C. Black, Glasgow; Mr. H. A. C. Gray, Edinburgh; Messrs. Kinloch & Co., London; Mrs. Fereday, Water-Orton; Dr. Reginald Pierson, Dresden; Dr. Squire, London; Dr. Nicholls, Chelmsford; Dr. Britton, Clifton; Mr. Fletcher, Framlingham; Messrs. Forder & Co., Wolverhampton; Mr. T. A. Buck, London; Mr. A. Kershaw, Bolton; Mr. F. A. Wilson, London; Mr. Hodges, Leicester; Dr. Eastwood, Darlington; Mr. T. W. Blackshaw, Stockport; Dr. Vandyke Carter; Dr. Charteris, Glasgow; Mr. E. D. Steel, London; Mr. Walter Rivington, London; Mr. Barker, Bury St. Edmunds; Mr. Lill, Lincoln; Mr. Harrison, Sheffield; Mr. Greensill, London; Mr. Butterfield, Bradford; Mr. Robinson, Dublin; Mr. Anderson, Dumfries; Mr. Lawton, Liverpool; Dr. Meadows, London; Mr. Pridgin Teale, Leeds; Dr. Tate, Nottingham; Dr. Jackson, Hexham; Dr. Spencer Cobbold, London; Dr. Fleming, Netley; Mr. John Foster, London; Mr. Linford, London; Mr. Ross Major, Shooter's Hill; Messrs. Cadbury, Birmingham (with enclosure); Mrs. Ballantine, West Kilbride; Messrs. Southall and Co., Birmingham (with enclosure); Mr. Skey, Reading (with enclosure); Mr. Davidson, Dorchester (with enclosure); Dr. R. White, Edinburgh; Mr. Godfrey, Northampton (with enclosure); Dr. Denne, Birmingham; Dr. O. Coleman, Surbiton (with enclosure); Mr. Stevens, Pewsey (with enclosure); Mr. Brooke, Margate; Mr. G. Jones, London; Mr. Watson, London (with enclosure); Mr. J. A. Thompson, London; Mr. Johnson, Middlesborough (with enclosure); Mr. Spicer, Chard; Mr. Watkins, Nailsworth (with enclosure); Mr. Mackenzie, Inverary (with enclosure); Mr. Fothergill, London; Dr. Pappenheim, Berlin; Mr. Etty, Scarborough (with enclosure); Mr. Paterson, Rothesay; Mr. Kirkham, Manchester (with enclosure); Dr. Dickson, Buxton (with enclosure); Mr. Lawrence, Darlington (with enclosure); Mr. Lawson, Enfield (with enclosure); Mr. Bond, Widnes (with enclosure); Mr. Winget, Torquay; Surgeon-Major Blatherwick, Netley; Dr. Hughes, Deal (with enclosure); Mr. Craven, Thurso, N.B.; Mr. Odell, Hertford; Mr. Soars, Horncastle; Dr. Grant, Longton (with enclosure); Mr. Smith, Sutton-on-Trent (with enclosure); Mr. G. W. Thomson, London (with enclosure); Dr. Walters, Reigate (with enclosure); Mr. Clifton, Islington (with enclosure); Mr. Allsworth, Wingham (with enclosure); Mr. Oliver, Stockton-on-Tees; Dr. Harrison, Presteign (with enclosure); Mr. Barnett, Weston-super-Mare (with enclosure); Mr. Wilkinson, Sheffield; Mr. Green, Glasgow (with enclosure); Mr. Isbell, Hereford (with enclosure); Mr. Jones, Landilo (with enclosure); Mr. Theobald, Leicester (with enclosure); Mr. Williams, Abertillery (with enclosure); Mr. Wilken, Wickhambrook (with enclosure); Mr. Hudson, Kilkenny (with enclosure); Mr. Bullen, Godshill (with enclosure); Dr. GreatRex, Lawton; Mr. Veale, Hampsthwaite (with enclosure); Mr. Whitehead, Huddersfield (with enclosure); Mr. Smith, Sittingbourne (with enclosure); Mr. Mitchinson, Hackney (with enclosure); Dr. Lightfoot, Newcastle (with enclosure); Dr. King, Welwyn (with enclosure); Mr. Ingle, Buxton; Mr. Roberts, Attercliffe (with enclosure); Mr. Walker, Corwen (with enclosure); Dr. Hall, Swadlincote (with enclosure); Mr. Collinge, Bacup (with enclosure); Mr. Akers, Ashby-de-la-Zouch (with enclosure); Mr. Comfield, Elland (with enclosure); Mr. Ginders, Normanton (with enclosure); Mr. Walker, West Bromwich (with enclosure); Mr. Taunton, Birmingham (with enclosure); Mr. Lawton, Kilburn (with enclosure); Mr. Beacon, London; Mr. Southam, Walsall (with enclosure); Mr. Wilkinson, Rotherham (with enclosure); Dr. Thomson, Higham Ferrers (with enclosure); Dr. Holland, Wylam-on-Tyne (with enclosure); Mr. Purcell, Baschurch; Dr. Thursfield, Oxford (with enclosure); Mr. Russell, Camelford (with enclosure); Mr. Judd, Wandsworth (with enclosure); Mr. G. Hayward, London; Dr. Hunter, Cork (with enclosure); Dr. Harding, Whittlesea (with enclosure); Mr. Brend, Swansea (with enclosure); Mr. Burr, Keighley; Mr. Collins, Newnham (with enclosure); Mr. Thorn, Kensington; Mr. White, Sunderland; R. B.; The Registrar of the College of Physicians; The Secretary of the Royal Institution; X. Y. Z.; Enquirer; The Manchester and Salford Sanitary Association; The Directors of the Australian Meat Agency Company; Medical Officer of Health; F.L.S.; The President of the Pharmaceutical Society; Ex Uno Disce Omnes; An Old Subscriber; The Authors of the Crucial Test Tested; M.R.C.S.; The Principal of King's College Hospital; Members of the Poor-law Medical Officers' Association; Atlas, Stockton-on-Tees (with enclosure); J. P.; M.D., Lowestoft (with enclosure); The University of London; The Royal Hospital for Diseases of the Chest; An Apothecary; &c. &c.

South London Journal, Parochial Critic, Newcastle Daily News, Circle, Welshman, Sunday Times, Irish Hospital Gazette, Cork Constitution, Manchester Guardian, Veterinarian, Pharmaceutical Journal, Scotsman, Indian Medical Gazette, Liverpool Daily Post, Kentish Independent, Huddersfield Chronicle, Surrey Advertiser, and *Isle of Man Times* have been received.

METEOROLOGICAL READINGS

(*Taken by Steward's Instruments*).

THE LANCET OFFICE, MAY 7TH, 1874.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8 A.M.
May 1	30·01	N.E.	44	47	90	58	44	...	Fine
„ 2	30·11	E.	40	41	97	58	37	...	Cloudy
„ 4	29·84	E.	40	43	79	52	38	...	Cloudy
„ 5	29·90	N.E.	41	45	73	52	41	...	Cloudy
„ 6	29·87	WNW	43	49	79	56	43	...	Overcast
„ 7	29·73	WNW	43	49	96	63	41	...	Fine

Medical Diary of the Week.

Monday, May 11.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, May 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Rutherford, "On the Nervous System."
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Mr. Barwell, "On Septic Disease in and out of Hospitals."—Mr. Higgens, "On two Cases of Hæmorrhagic Diathesis."

Wednesday, May 13.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, May 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. N. S. Maskelyne, "On Physical Symmetry in Crystals."

Friday, May 15.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—9 P.M. Dr. C. W. Siemens: "The Steamship *Faraday*, and her Appliances for Cable-laying."

Saturday, May 16.

HOSPITAL FOR WOMEN Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Op rations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Mr. R. A. Proctor, "On the Planetary System."

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